

## NO TIME TO WASTE: Schools Can Raise Achievement for All

April 28, 2006 Richmond, VA

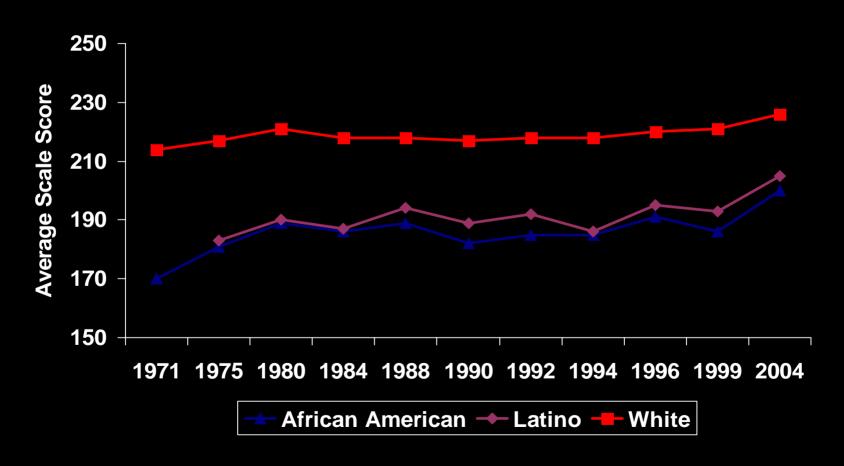


## First, some good news.

After more than a decade of fairly flat achievement and stagnant or growing gaps, we appear to be turning the corner.

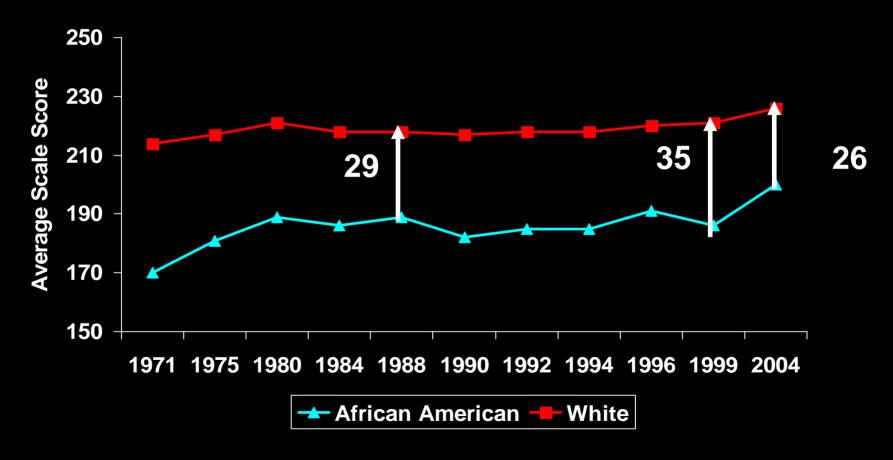


# Long Term Trends NAEP Reading, 9 Year-Olds



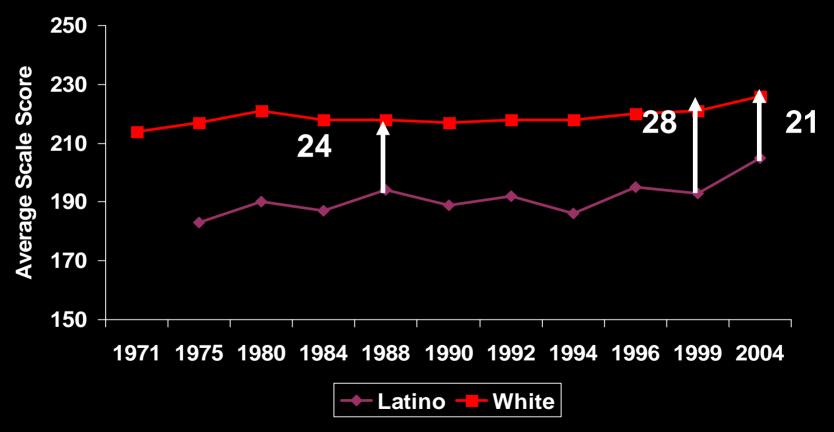


### African American-White Gap Narrows to Smallest Size in History Long Term Trends NAEP Reading, 9 Year-Olds



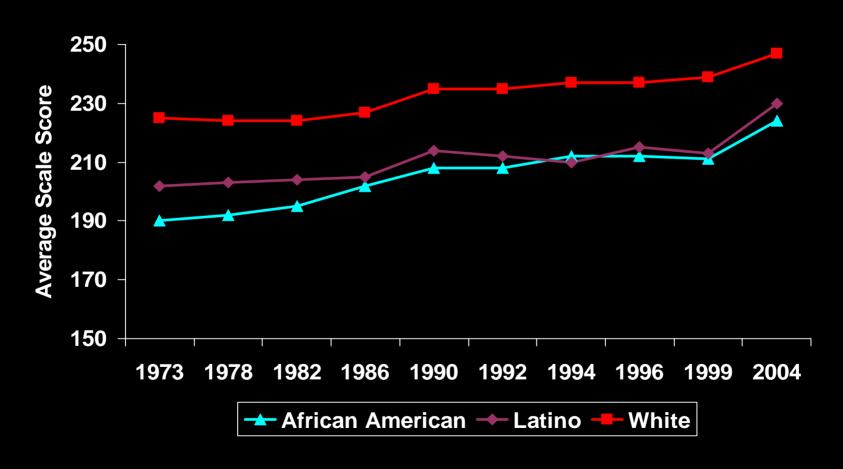


# Latino-White Gap Narrows to Smallest Size in History Long Term Trends NAEP Reading, 9 Year-Olds



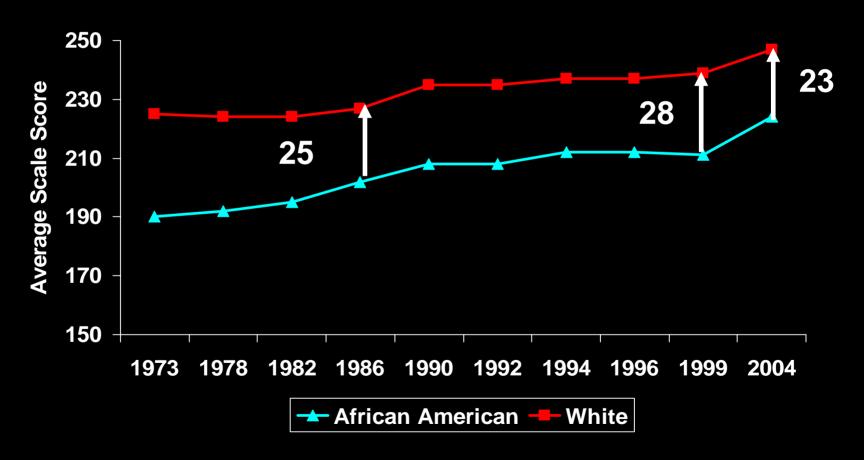


# Long Term Trends NAEP Math, 9 Year-Olds



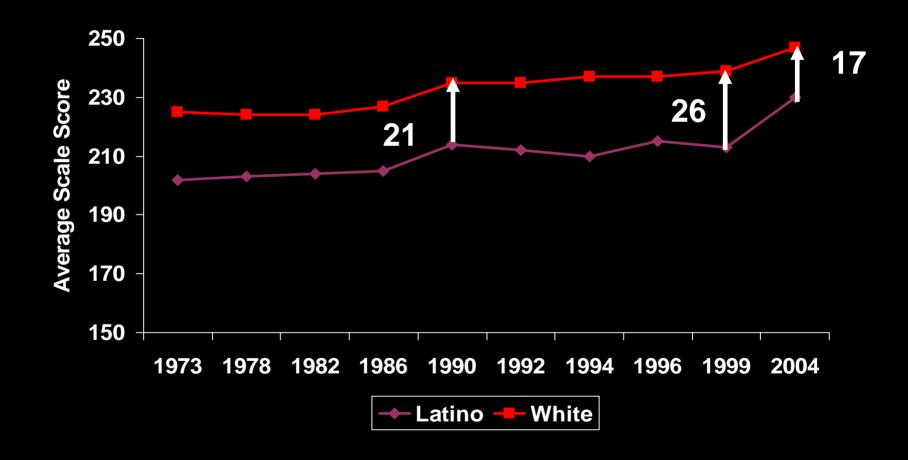


#### African American-White Gap Narrows to Smallest Size in History Long Term Trends NAEP Math, 9 Year-Olds



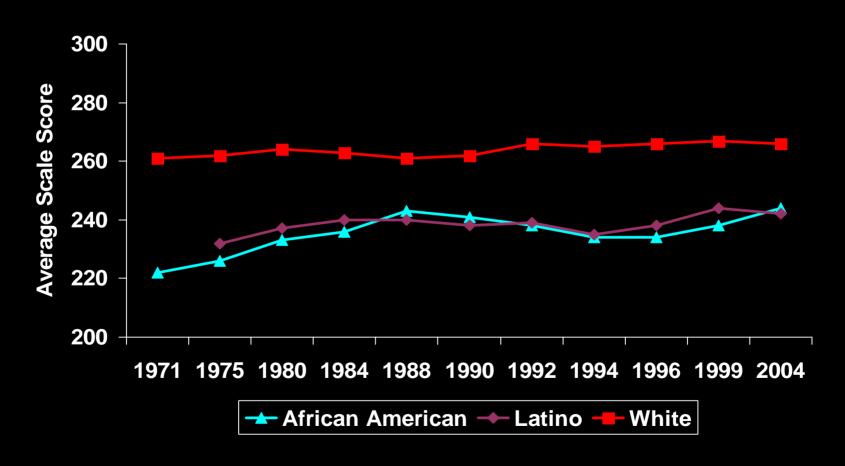


# Latino-White Gap Narrows to Smallest Size in History Long Term Trends NAEP Math, 9 Year-Olds



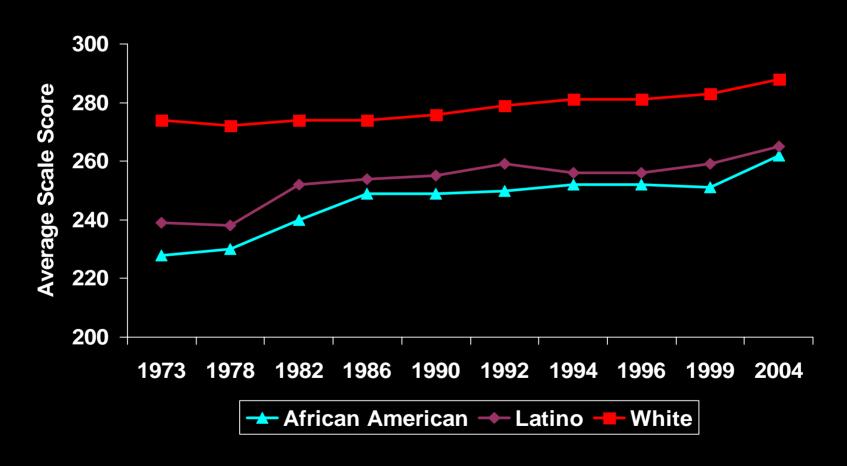


# Long Term Trends NAEP Reading, 13 Year-Olds





#### Long Term Trends NAEP Math, 13 Year-Olds





## Bottom Line: When We Really Focus on Something, We Make Progress

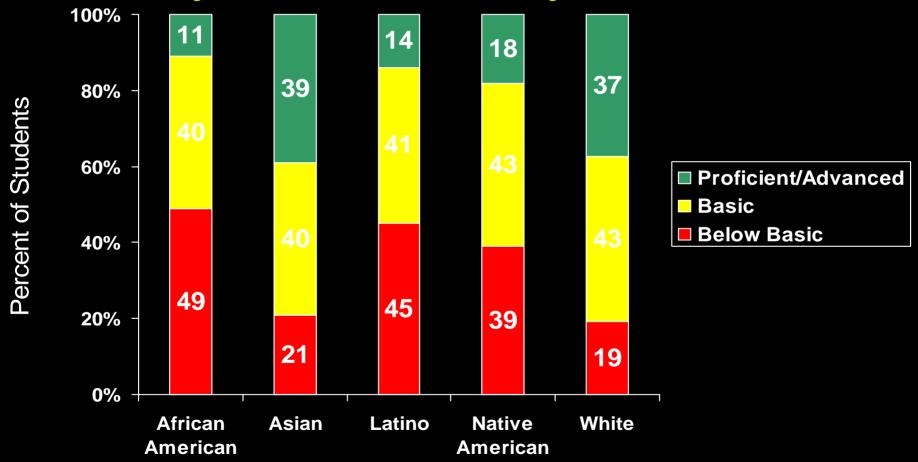


# Clearly, much more remains to be done in elementary and middle school

Too many gaps between groups and students enter high school way behind.

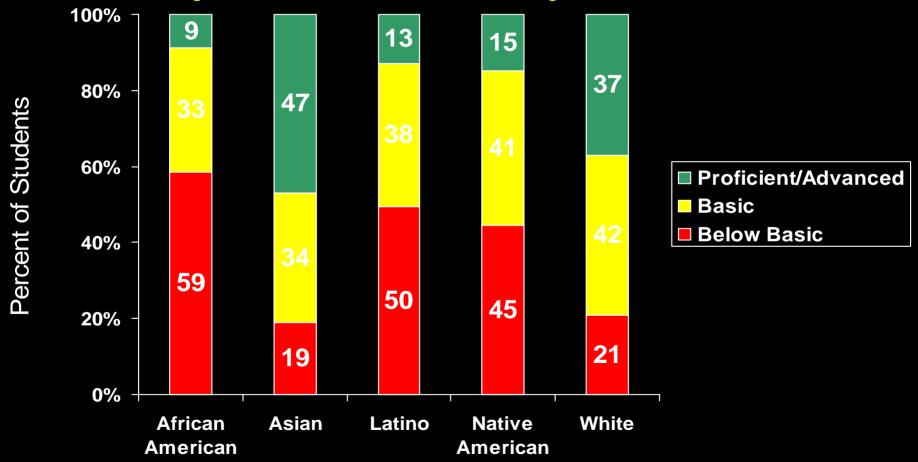


# 2005 NAEP Grade 8 Reading by Race/Ethnicity, Nation





# 2005 NAEP Grade 8 Math by Race/Ethnicity, Nation

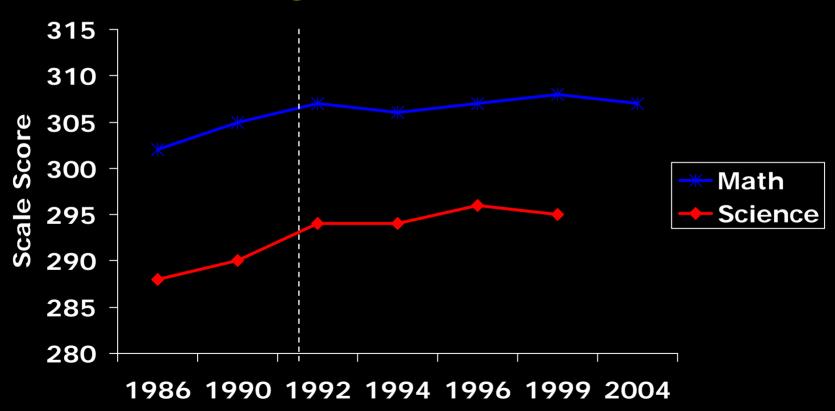




# What does the National Picture Look Like for High Schoolers?



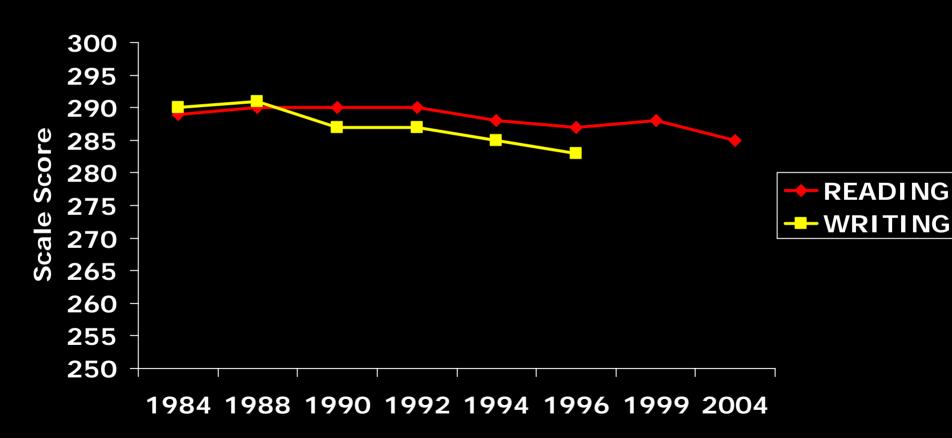
## High School Achievement: Math and Science: NAEP Long-Term Trends





**Source:** NAEP 1999 Trends in Academic Progress.

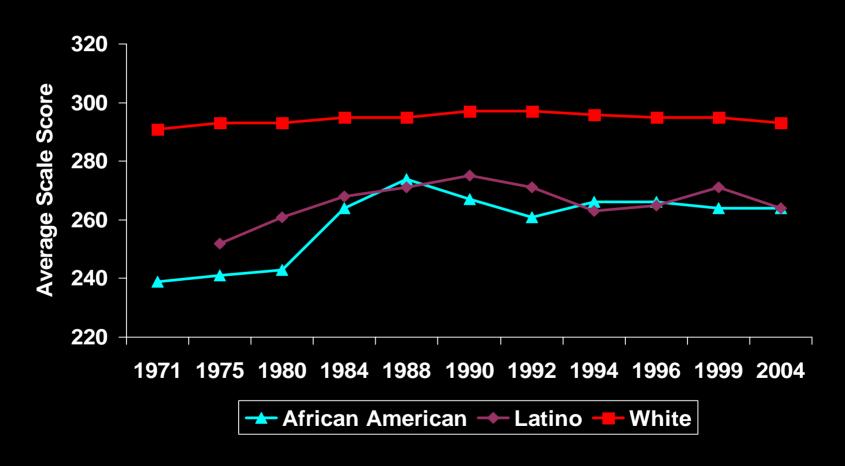
# HIGH SCHOOL ACHIEVEMENT: READING AND WRITING NAEP Long-Term Trends





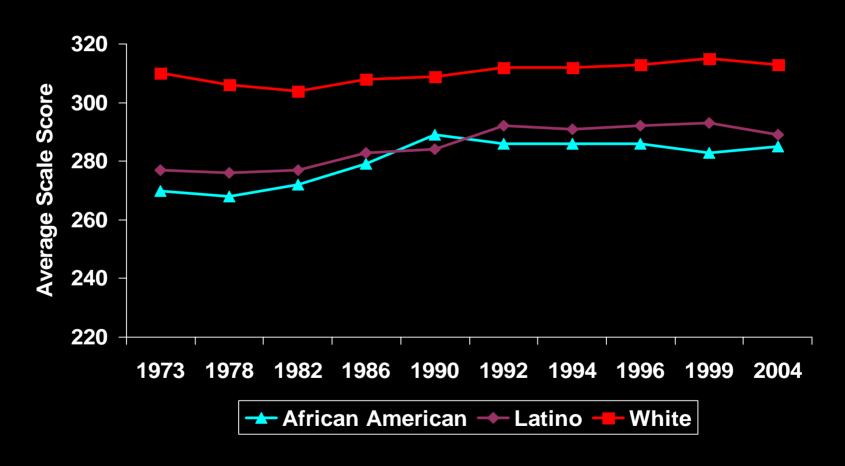
Source: NAEP 1999 Trends in Academic Progress.

#### Long Term Trends NAEP Reading, 17 Year-Olds





# Long Term Trends NAEP Math, 17 Year-Olds





# Value Added in High School Declined During the Nineties



# Value Added Declining in High School Math...



Note: Scale score gains reflect the difference between the scale scores of 17-year-olds and the scale scores of 13-year-olds four years prior.



## Hormones?



# Students in Other Countries Gain far More in Secondary School



## PISA



## US 15 Year-Olds Rank Near The End Of The Pack Among 29 Participating Countries: 2003

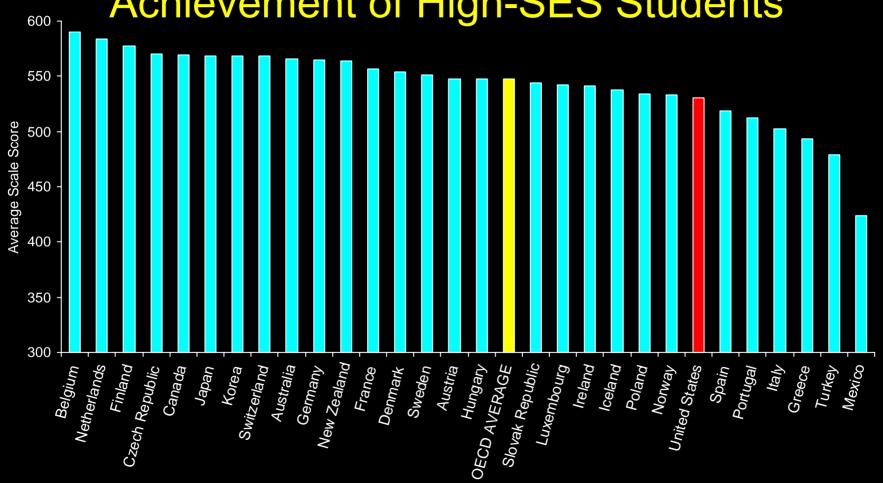
	U.S. RANK
READING	20 <sup>TH</sup>
MATH	24 <sup>TH</sup>
SCIENCE	19 <sup>TH</sup>



# Problems are not limited to our high-poverty and high-minority schools . . .



#### U.S. Ranks 23<sup>rd</sup> out of 29 OECD Countries in the Math Achievement of High-SES Students



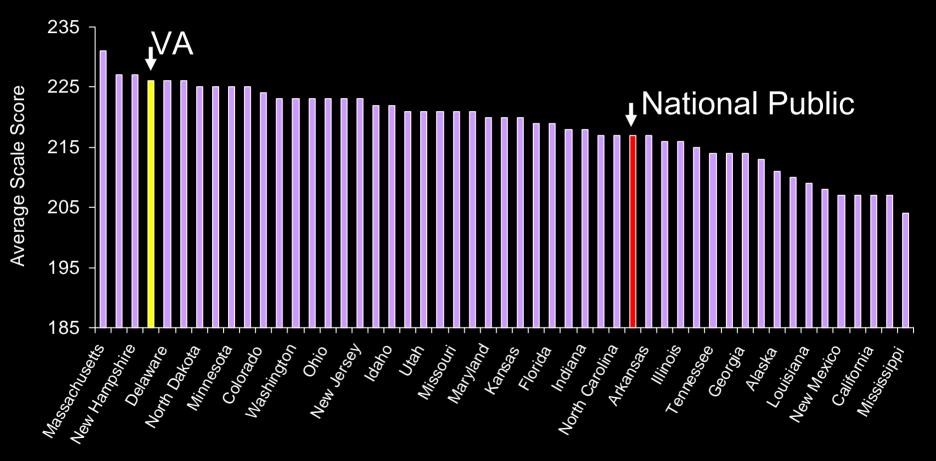


**Source**: Organization for Economic Cooperation and Development (OECD), PISA 2003 Results, data available at <a href="http://www.oecd.org/">http://www.oecd.org/</a>

## How does Virginia Stack Up?

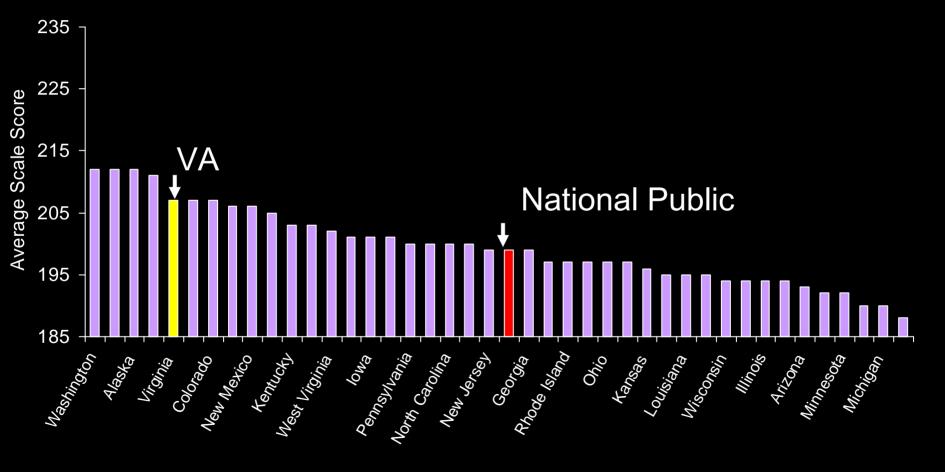


## NAEP 2005 Grade 4 Reading, Overall Scale Scores



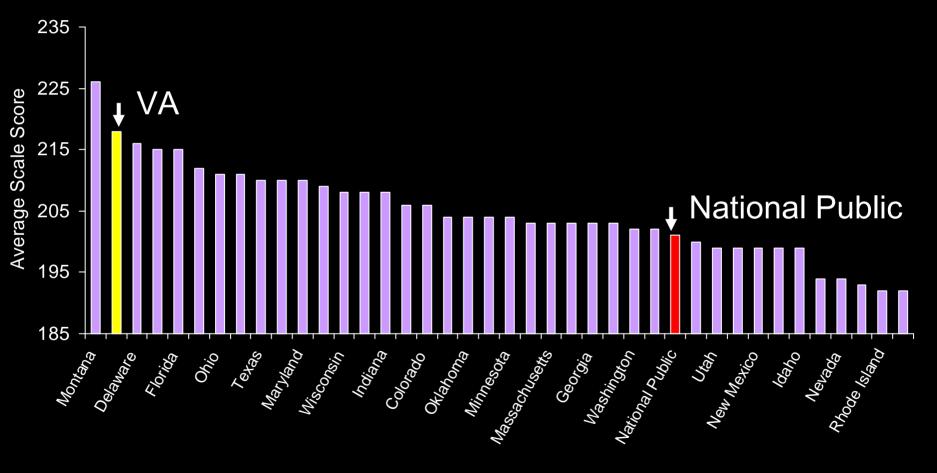


## NAEP 2005 Grade 4 Reading, African American Scale Scores



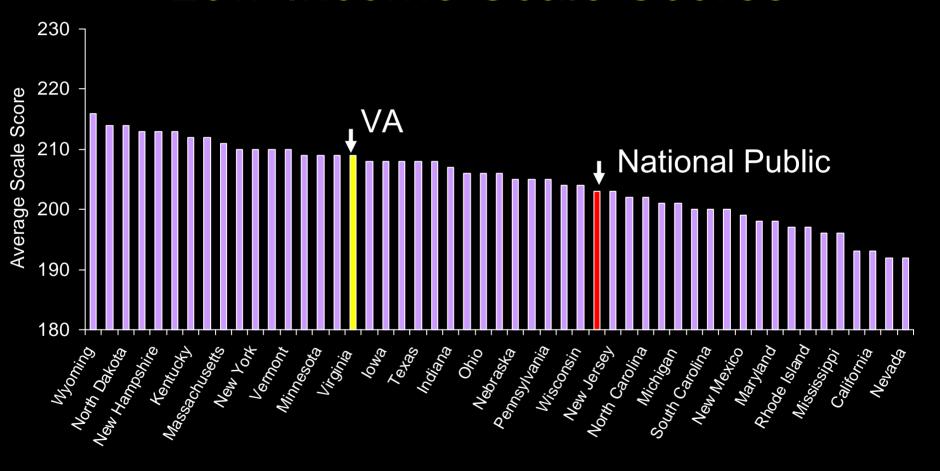


## NAEP 2005 Grade 4 Reading, Latino Scale Scores



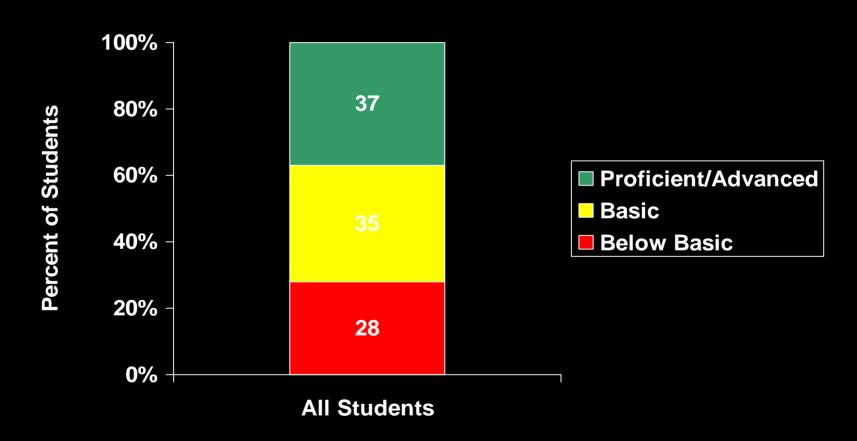


## NAEP 2005 Grade 4 Reading, Low-Income Scale Scores



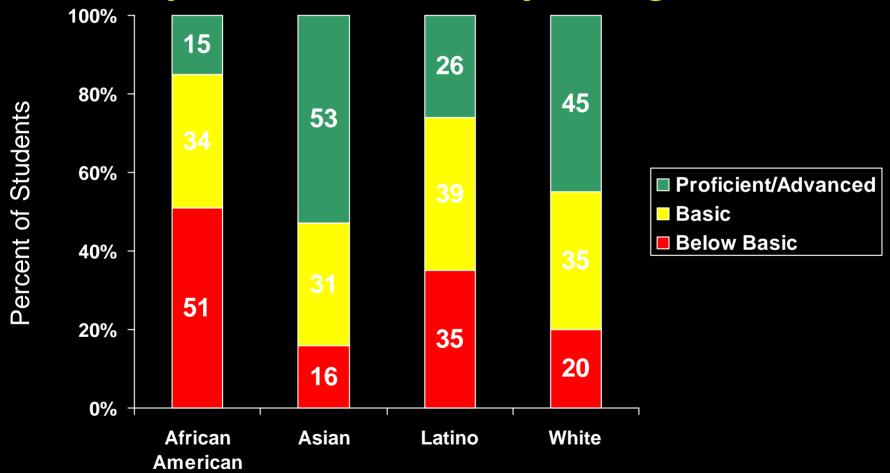


# 2005 NAEP Grade 4 Reading All Students, Virginia



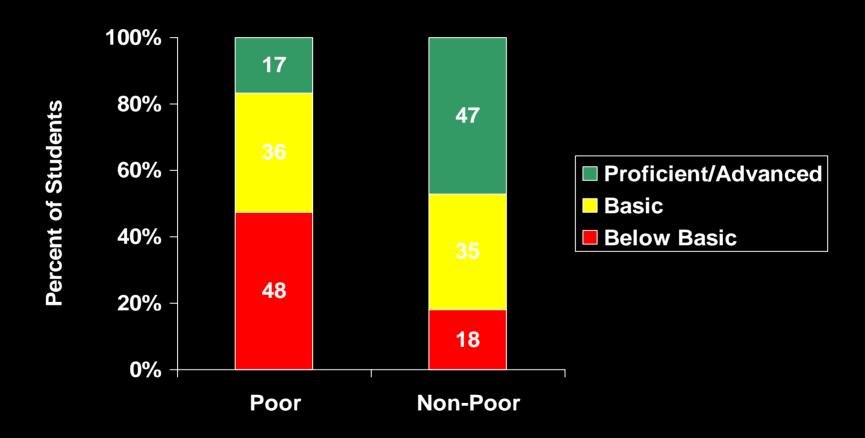


# 2005 NAEP Grade 4 Reading by Race/Ethnicity, Virginia



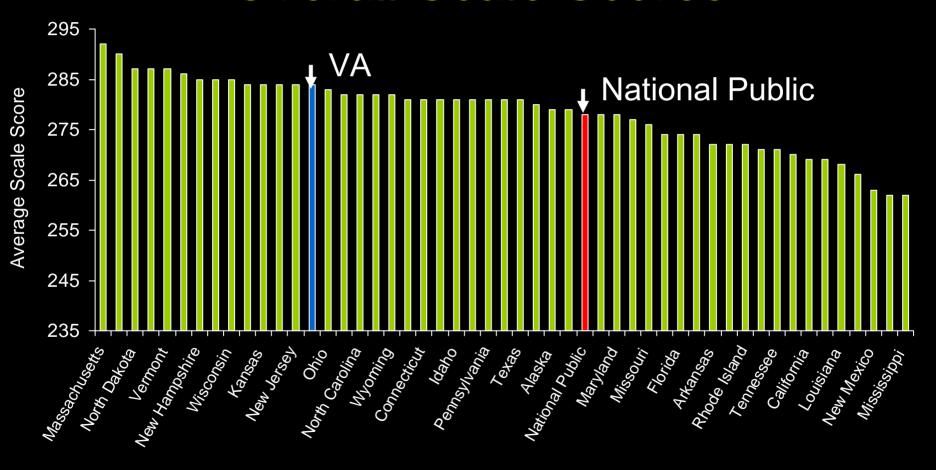


# 2005 NAEP Grade 4 Reading by Family Income, Virginia



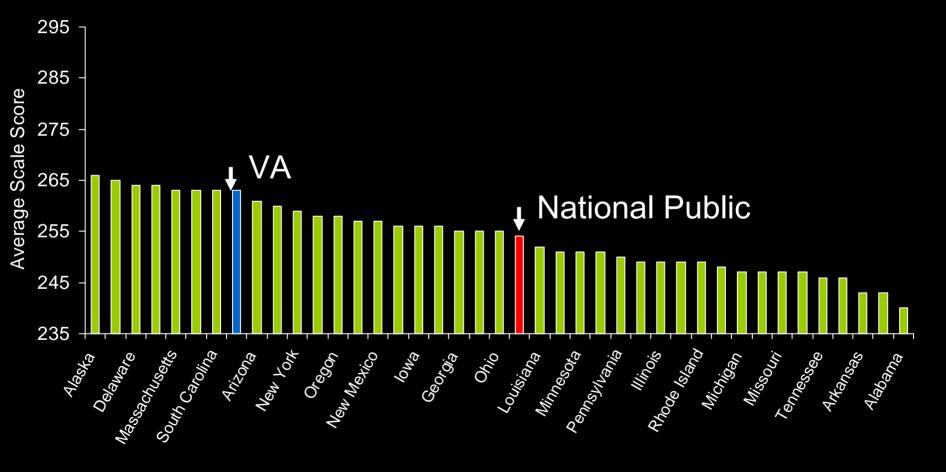


## NAEP 2005 Grade 8 Math, Overall Scale Scores



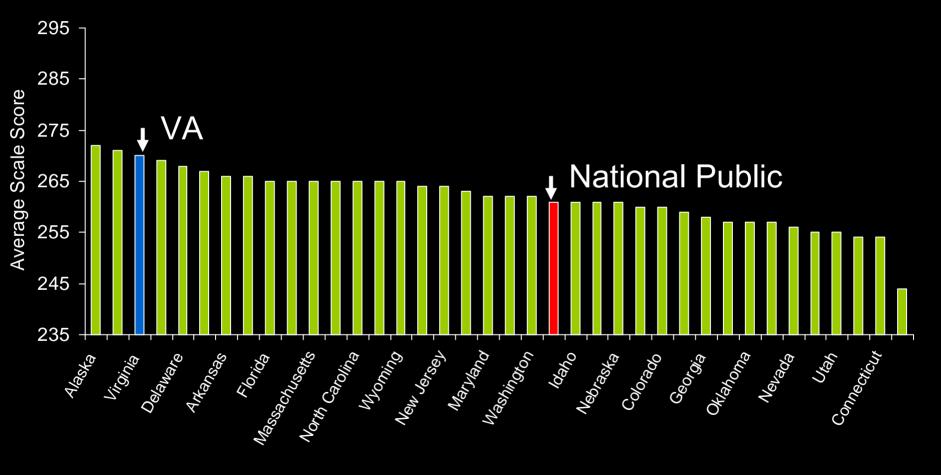


#### NAEP 2005 Grade 8 Math, African American Scale Scores



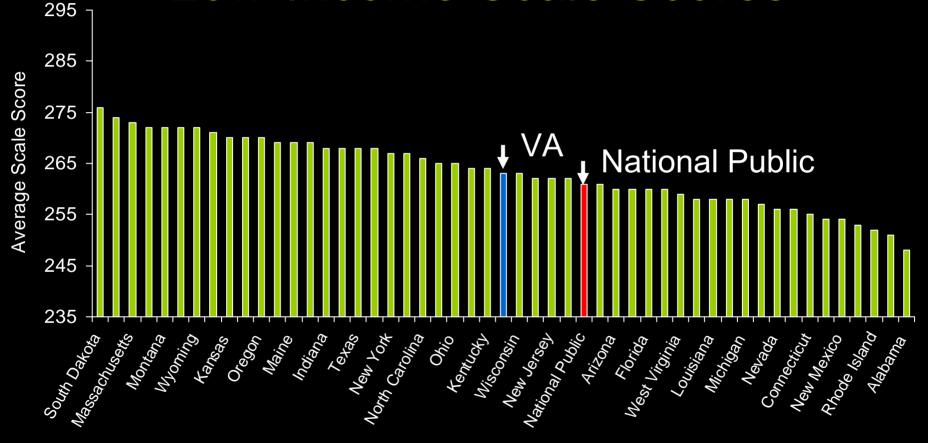


#### NAEP 2005 Grade 8 Math, Latino Scale Scores



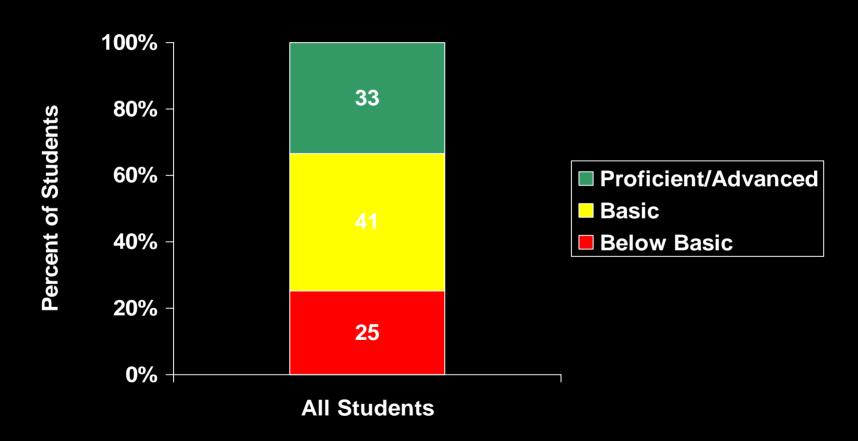


#### NAEP 2005 Grade 8 Math, Low-Income Scale Scores



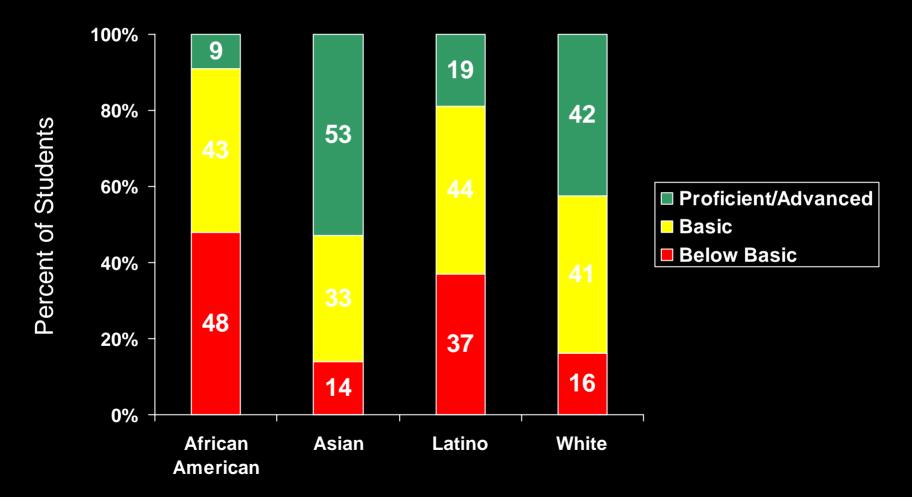


#### 2005 NAEP Grade 8 Math All Students, Virginia



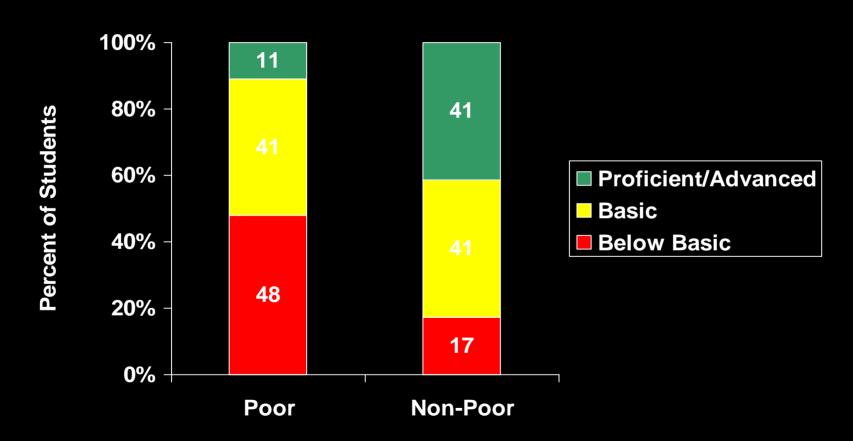


# 2005 NAEP Grade 8 Math by Race/Ethnicity, Virginia





# 2005 NAEP Grade 8 Math by Family Income, Virginia

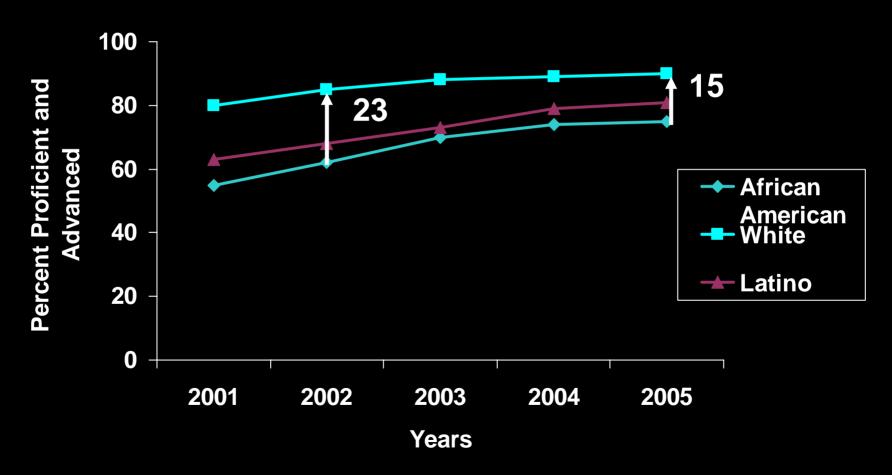




# Virginia is Also a Good Example of a State That Is Narrowing the Achievement Gap on Its State Assessments

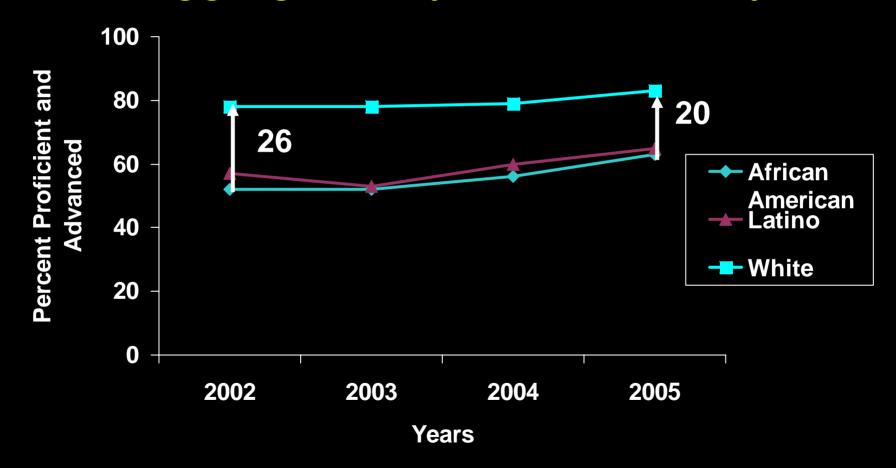


#### Virginia Standards of Learning, Grade 5 Reading/Language Arts Disaggregated by Race/Ethnicity



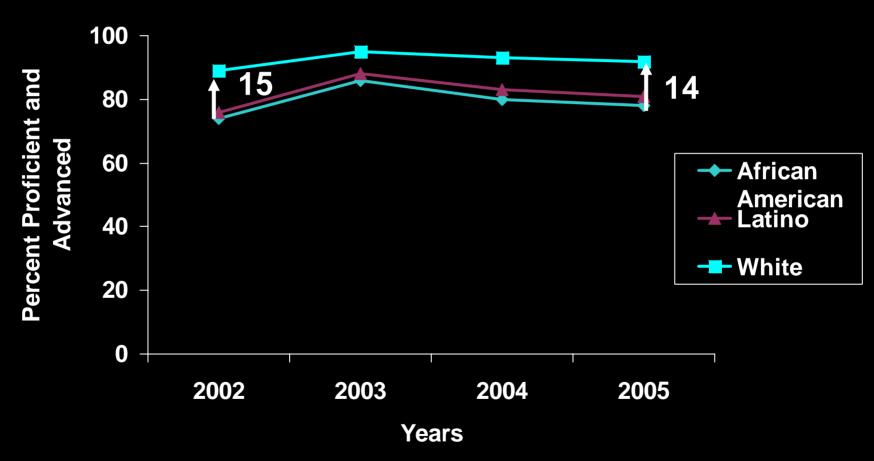


#### Virginia Standards of Learning, Grade 8 Reading/Language Arts Disaggregated by Race/Ethnicity





# Virginia Standards of Learning, End of Grade Reading/Language Arts Disaggregated by Race/Ethnicity



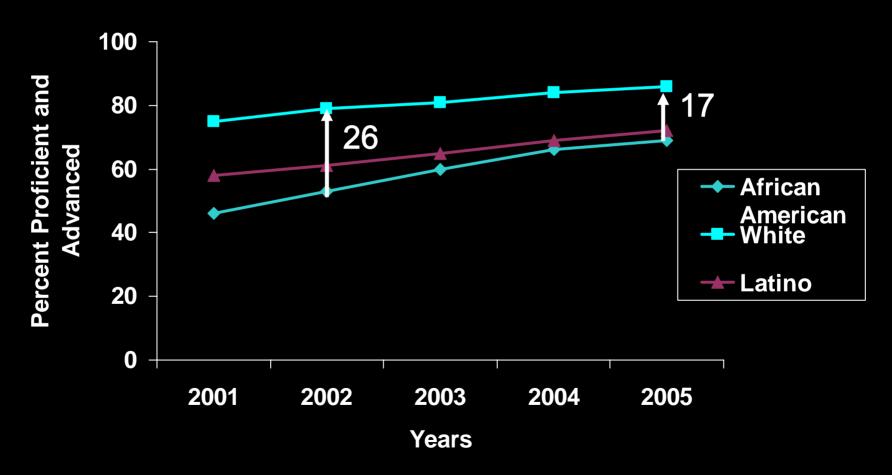
Notes: The high school Reading/Language Arts end-of-course SOL exam is first administered in grade 11. The results of this administration are used for AYP purposes. Data reflect results from this administration.

Data Source: Virginia Department of Education,

http://pen2.vak12ed.edu/cgi-bin/broker?\_service=doe\_prod&\_program=prodcode.doerp101rcdp001.sas

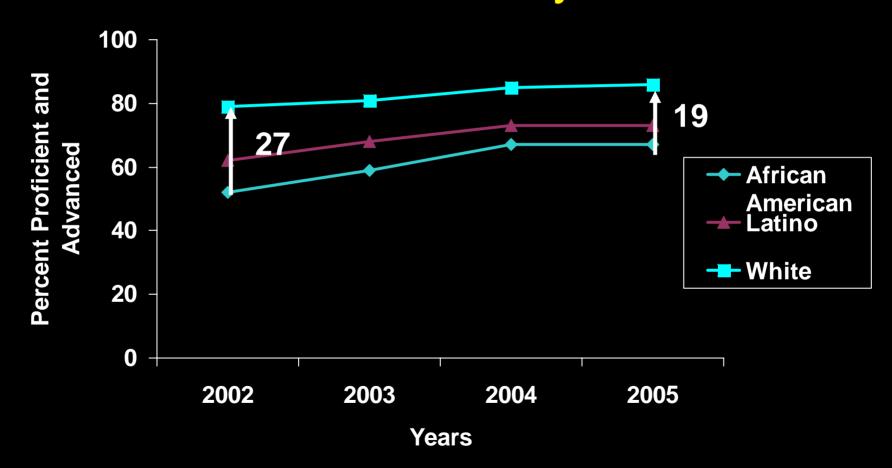


#### Virginia Standards of Learning, Grade 5 Math Disaggregated by Race/Ethnicity



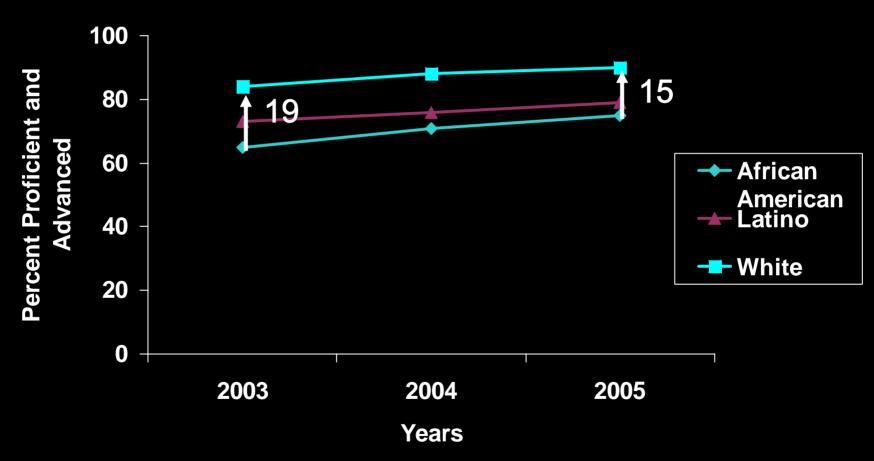


#### Virginia Standards of Learning, Grade 8 Math Disaggregated by Race/Ethnicity





# Virginia Standards of Learning, High School Math Disaggregated by Race/Ethnicity



Notes: The high school math SOL is a composite of three different end-of-course exams: algebra I, algebra II, and geometry. There is great variation in the grades in which these exams are taken.

Data Source: Virginia Department of Education, http://pen2.vak12ed.edu/cgi-bin/broker?\_service=doe\_prod&\_program=prodcode.doerp101rcdp001.sas

# Examples of Schools in Virginia

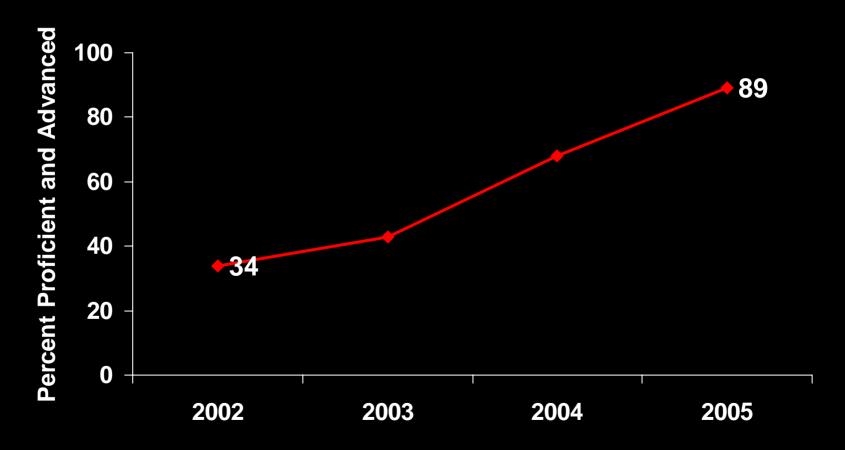


#### George Mason Elementary, Richmond City Public Schools

- 319 Students PK-Grade 5
- 99.7% African American
- 75% Low-Income
- Made AYP in 2005

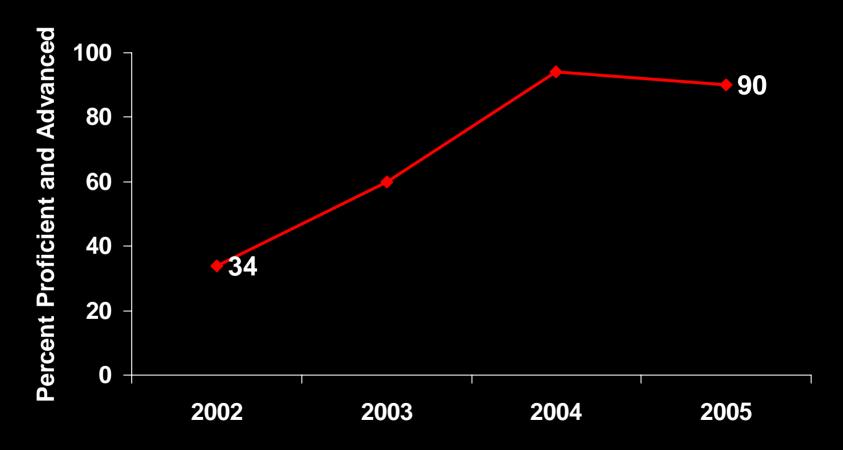


# George Mason Has Made Incredible Gains in Grade 3 VSOL Reading Proficiency



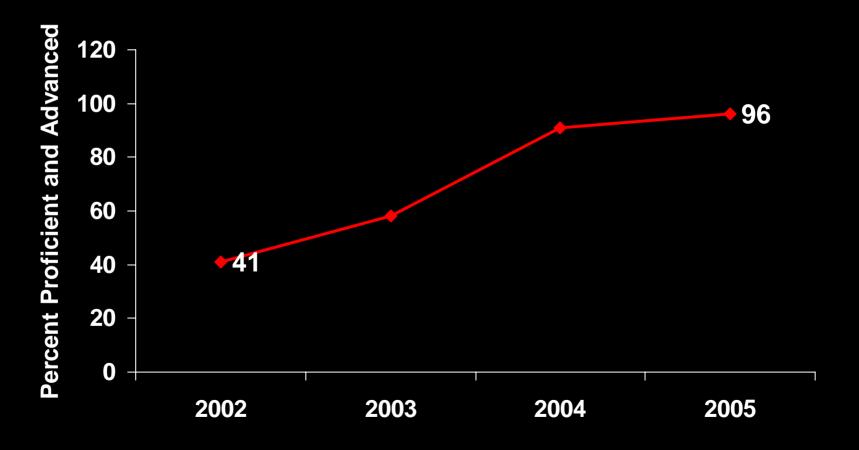


# George Mason Has Made Amazing Gains in Grade 5 VSOL Reading Proficiency



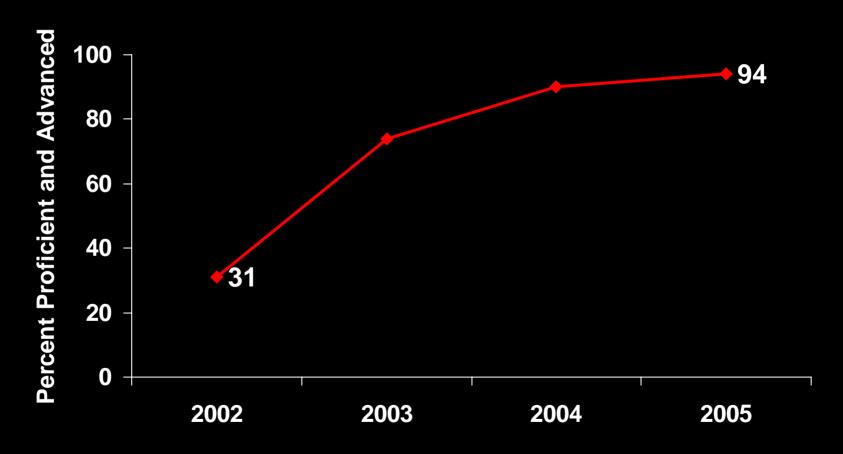


# George Mason Has Made Huge Gains in Grade 3 VSOL Math Proficiency





# George Mason Has Made Enormous Gains in Grade 5 VSOL Math Proficiency



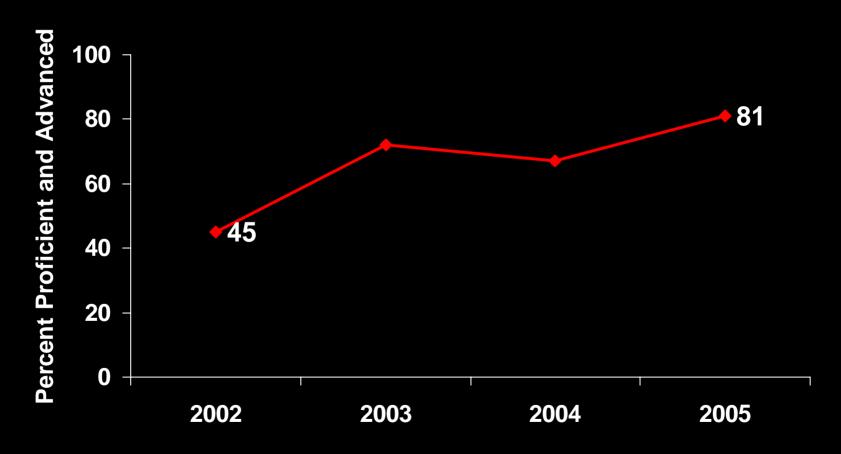


#### Woodville Elementary, Richmond City Public Schools

- 469 Students PK-Grade 5
- 98.7% African American
- 77% Low-Income
- Made AYP in 2005

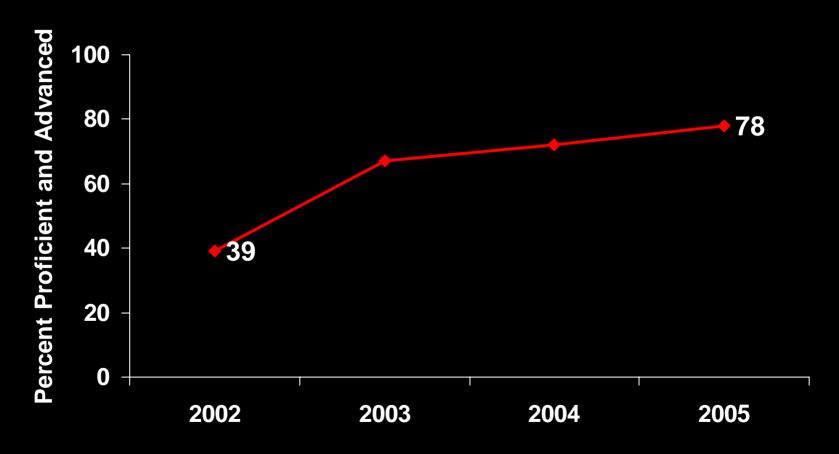


# Woodville Has Improved Greatly in Grade 3 VSOL Reading Proficiency



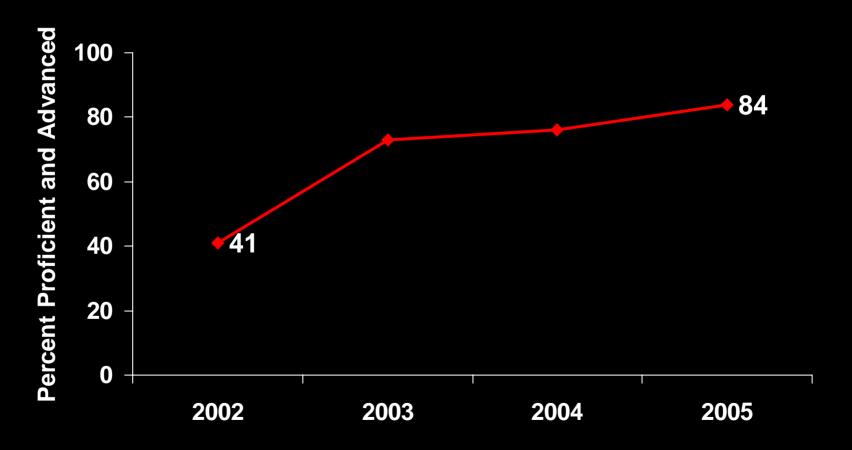


# Woodville Has Made Large Gains in Grade 5 VSOL Reading Proficiency



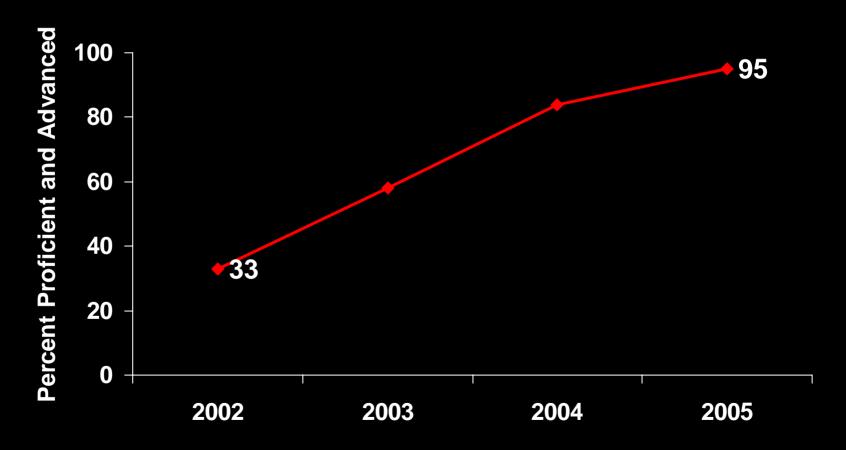


# Woodville Has Made Huge Increases in Grade 3 VSOL Math Proficiency





# Woodville Has Made Tremendous Gains in Grade 5 VSOL Math Proficiency



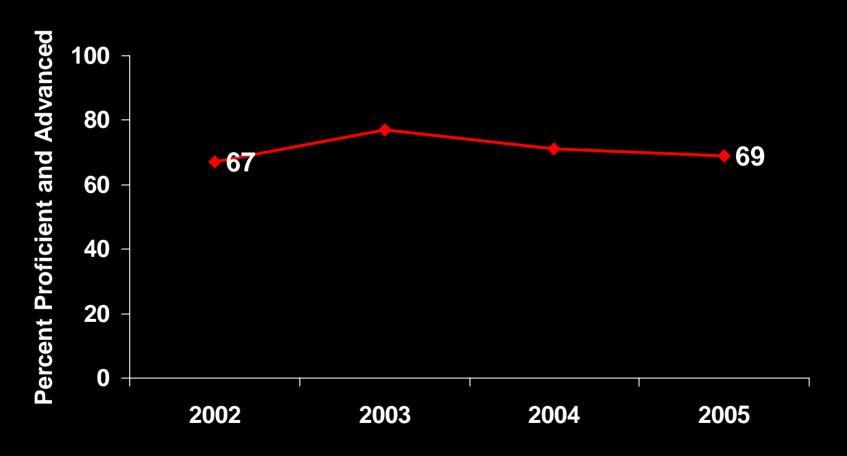


#### Miles Jones Elementary, Richmond City Public Schools

- 520 Students PK-Grade 5
- 84% African American
- 10% Latino
- 5% White
- 77% Low-Income
- Did Not Made AYP in 2005

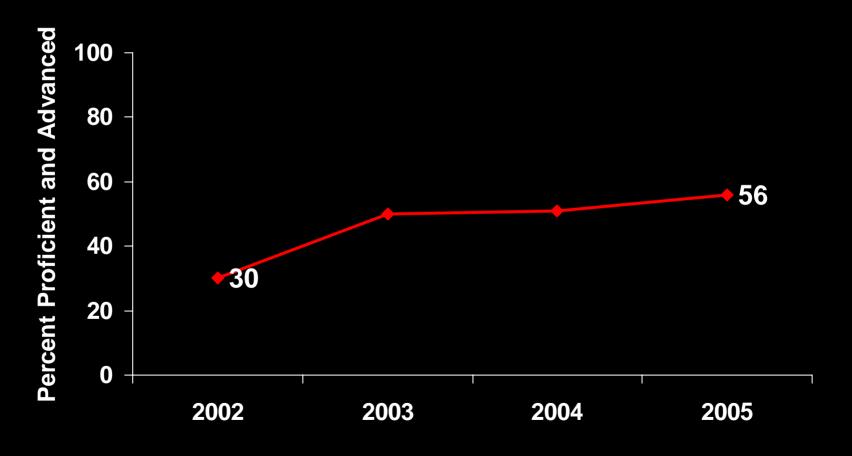


### Miles Jones Elementary's Grade 5 VSOL Reading Proficiency



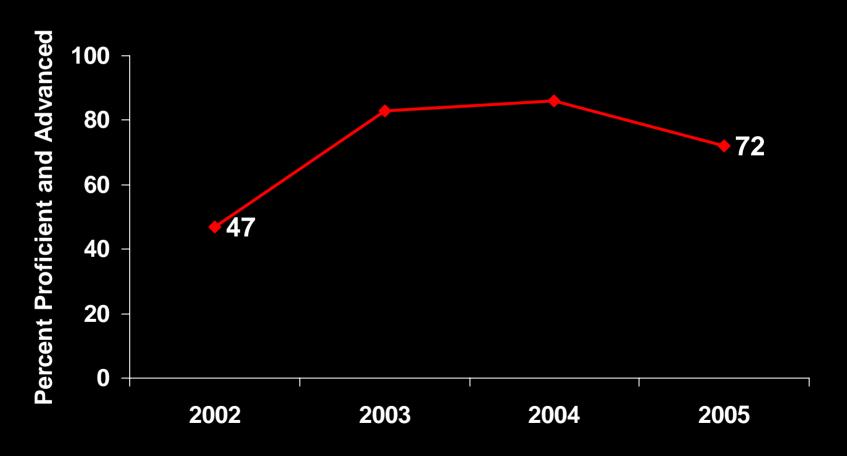


# Miles Jones Elementary's Grade 3 VSOL Reading Proficiency



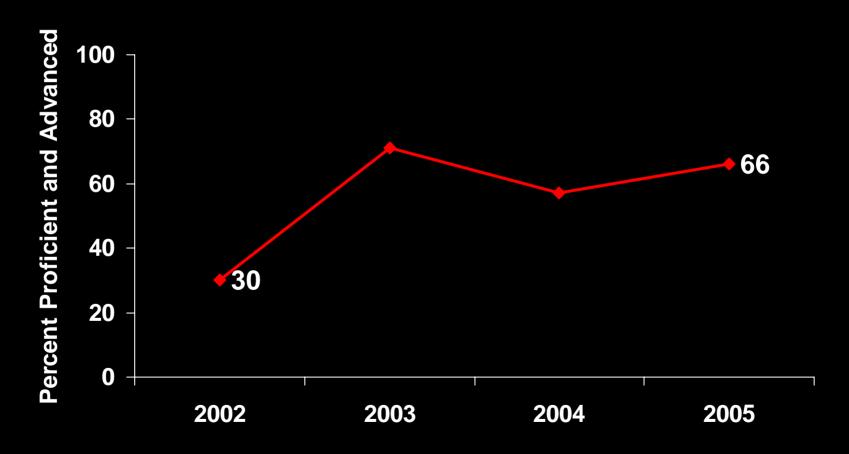


#### Miles Jones Elementary's Grade 3 VSOL Math Proficiency





#### Miles Jones Elementary's Grade 5 VSOL Math Proficiency



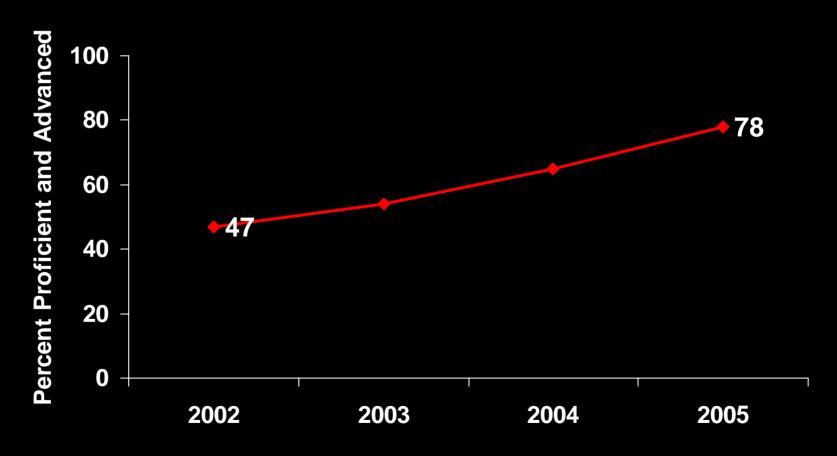


# Fred D. Thompson Middle School, Richmond City Public Schools

- 699 Students Grades 6-8
- 96% African American
- 74% Low-Income
- Made AYP in 2005

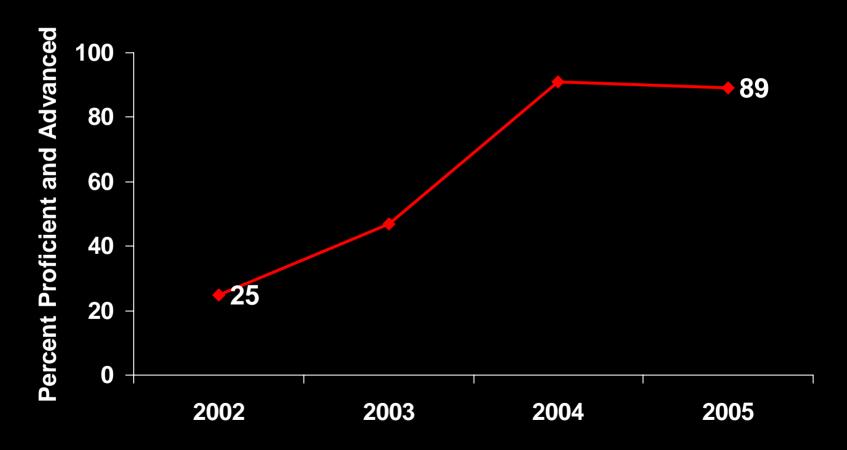


# Fred D. Thompson Middle's Gains on Grade 8 VSOL Reading Proficiency





# Fred D. Thompson Middle's Gains on Grade 8 VSOL Math Proficiency



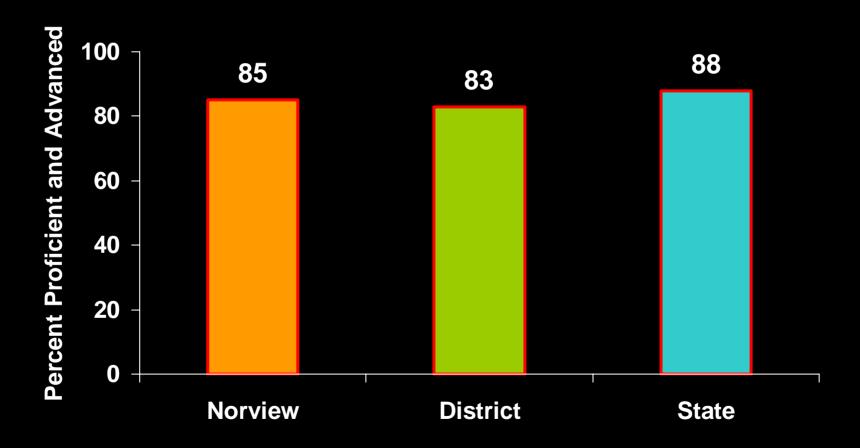


#### Norview High School, Norfolk City Public Schools

- 1,746 Students Grades 9-12
- 66% African American
- 30% White
- 54% Low-Income
- Made AYP in 2005

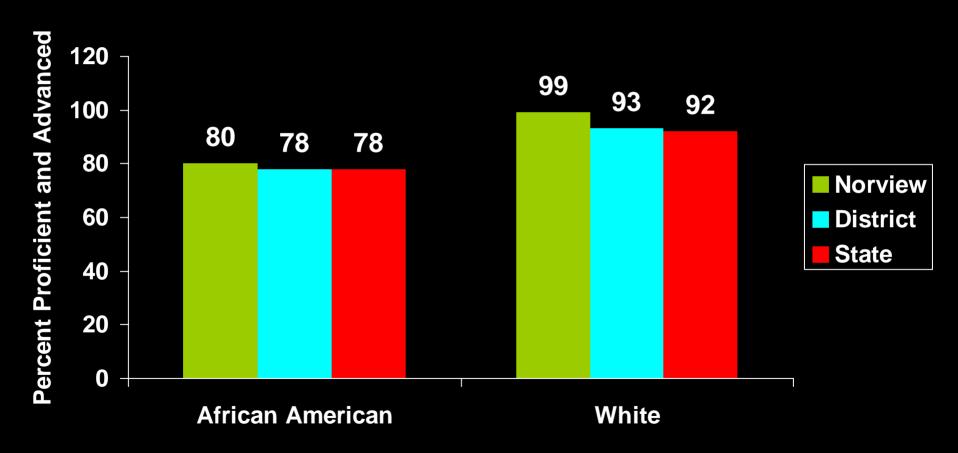


### Norview's Reading Scores Are On Par With the State



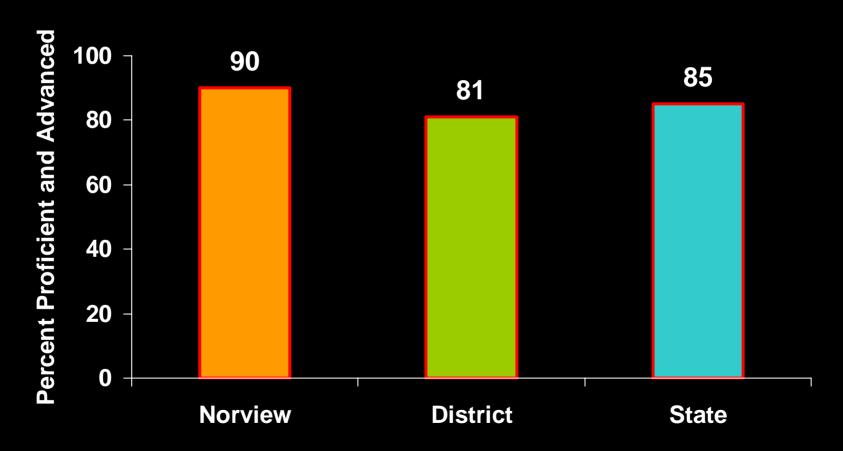


# African American and White Students at Norview are Outperforming the State and District in High School Reading



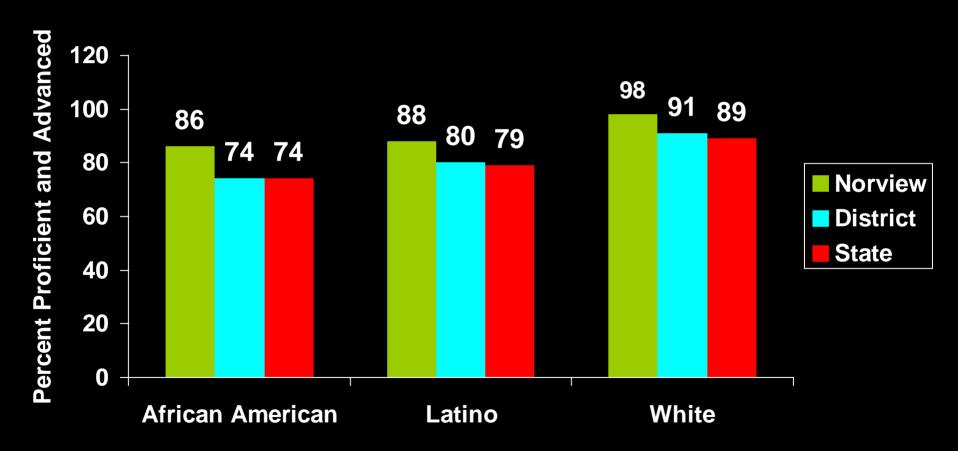


# Norview is Outperforming the State and the District In High School Math Achievement





# African American and White Students at Norview are Outperforming the State and District in High School Math







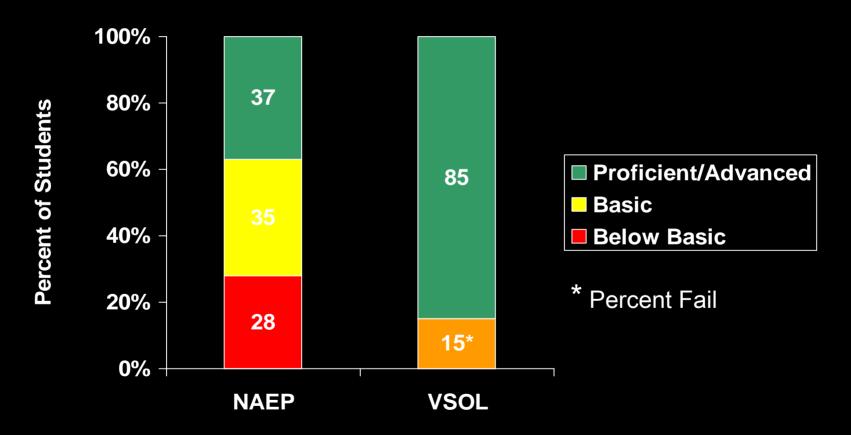
What's going on in these schools?



# While This is Encouraging, the VSOL-NAEP Discrepancy in the Percent Proficient is Huge

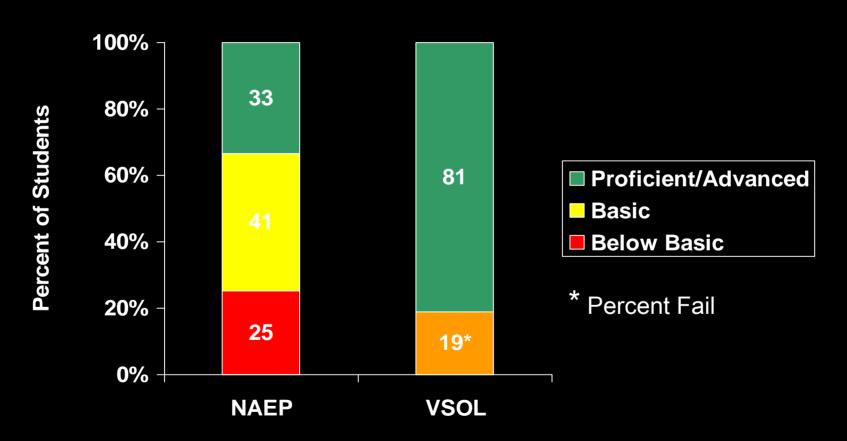


# There is a Large Discrepancy in the Percent of All Students Proficient on VSOL and NAEP Elementary Reading Assessments





### There is a Large Discrepancy in the Percent of All Students Proficient on VSOL and NAEP Grade 8 Math Assessments





# How Can The Discrepancy Between NAEP and SOL Performance Be Explained?





Examine items from NAEP and SOL



# Changing attitudes and perceptions about why we have an achievement gap



### Here's what we hear any adults say

- It's the poverty that matters most;
- Their parents don't value education;
- They come to schools without breakfast, not ready or motivate;
- Not enough books and reading at home; and
- Not enough parent involvement.



# Some of these "lesses" are a result of choices that educators and policymakers make.



#### The "Lesses" Are Opportunity Gaps

- Some students don't get a rigorous curriculum;
- Some students get the least qualified teachers; and
- Some schools, districts and states spend fewer \$\$\$ on poor students.



Thinking about "lesses" this way is somehow comforting to many educators.

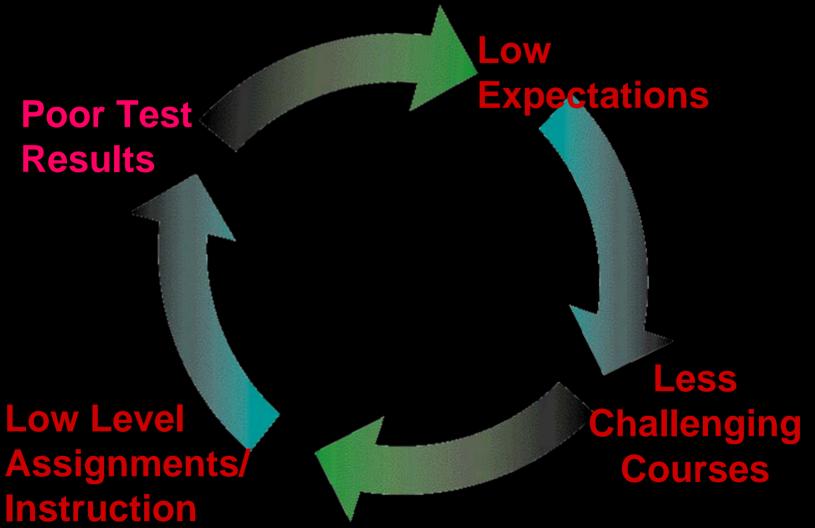


But some of the "lesses"

—indeed, perhaps the most
devastating ones—
are a function of choices that we
educators make.



### Cycle of Low Achievement





### Limited access to challenging curriculum



#### Grade 7 Writing Assignment

#### Essay on Anne Frank

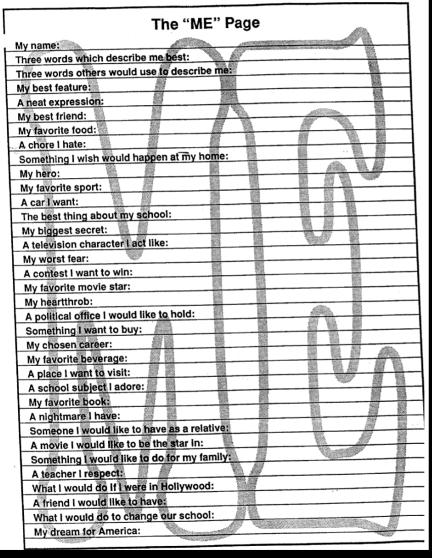
Your essay will consist of an opening paragraph which introduced the title, author and general background of the novel.

Your thesis will state specifically what Anne's overall personality is, and what general psychological and intellectual changes she exhibits over the course of the book

You might organize your essay by grouping psychological and intellectual changes OR you might choose 3 or 4 characteristics (like friendliness, patience, optimism, self doubt) and show how she changes in this area.



#### Grade 7 Writing Assignment



•My Best Friend:

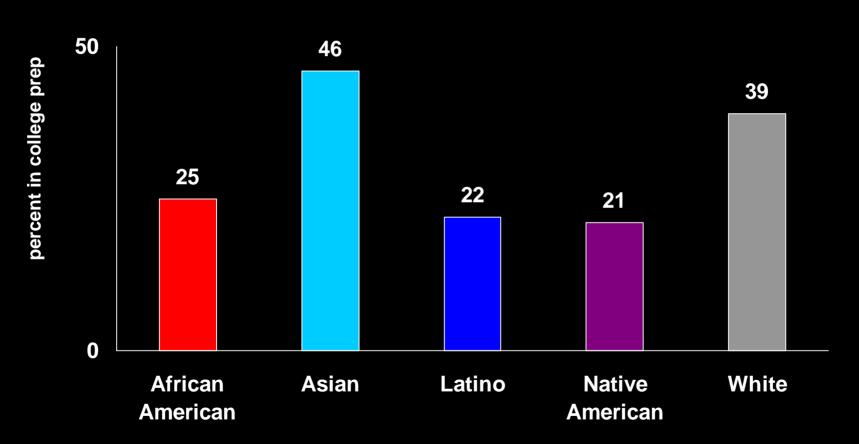
•A chore I hate:

•A car I want:

•My heartthrob:

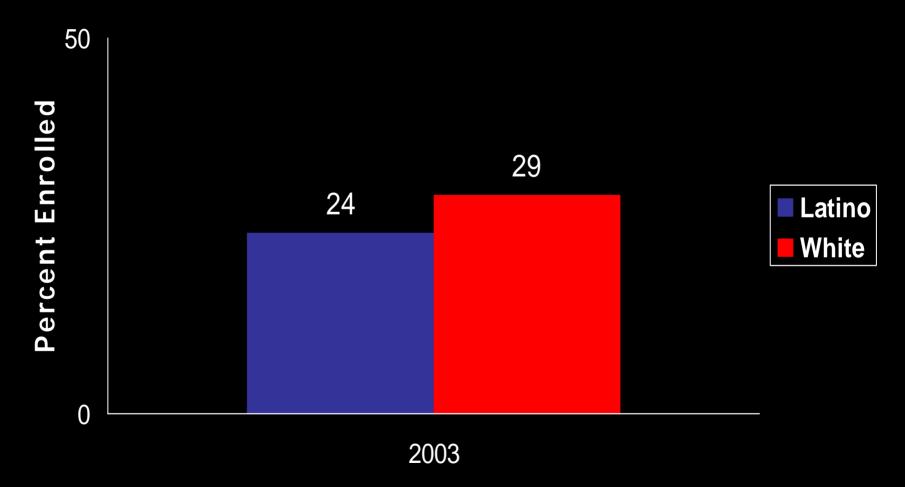


### Some groups of students are less likely to have been enrolled in full college prep track



SOURCE: Jay P. Greene, Public High School Graduation and College Readiness Rates in the United States Manhattan Institute, September 2003. Table 8. 2001 high school graduates with college-prep curriculum.

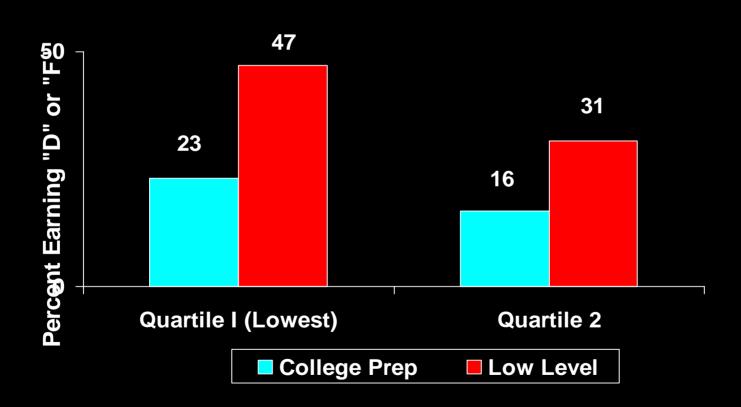
### Fewer Latino students are enrolled in Algebra 1 in Grade 8





### Challenging Curriculum Results in Lower Failure Rates, Even for Lowest Achievers

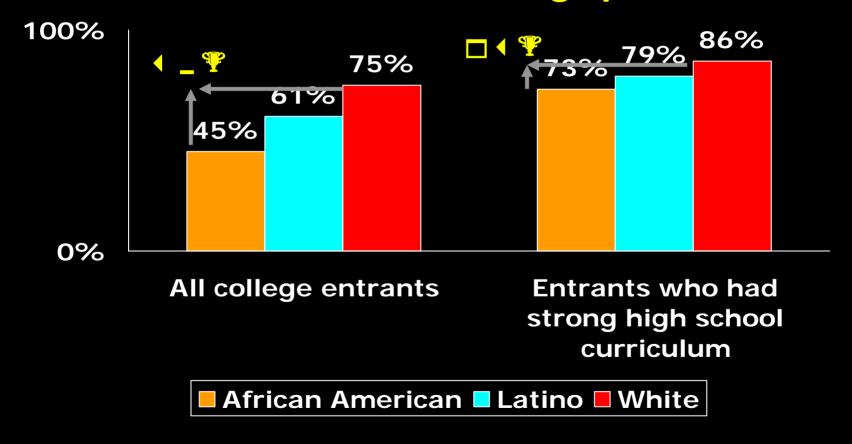
Ninth-grade English performance, by high/low level course, and eighth-grade reading achievement quartiles







# A strong H.S. curriculum\* improves college completion and narrows gaps

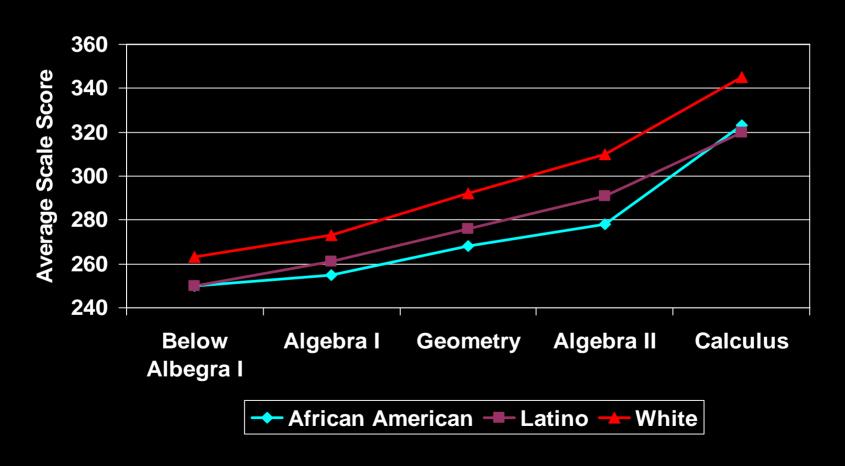


<sup>\*</sup>Completing at least "Algebra II" plus other courses.



### A Rigorous Curriculum Increases Math Achievement for All Students:

2000 NAEP Math Average Scale Score by Highest Course Taken

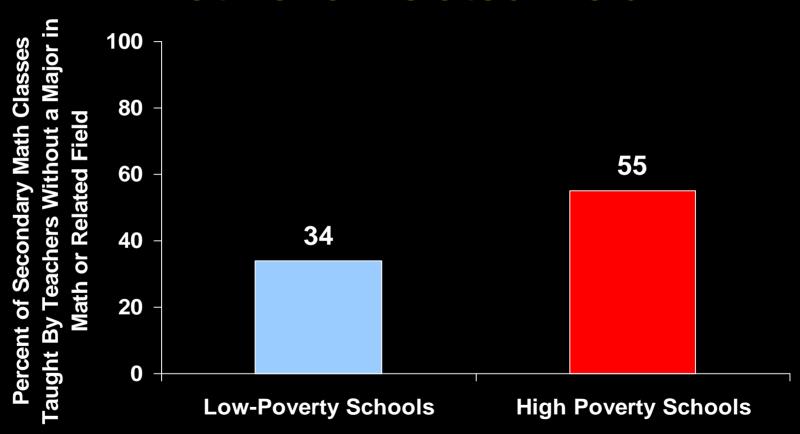




### Teachers matter hugely



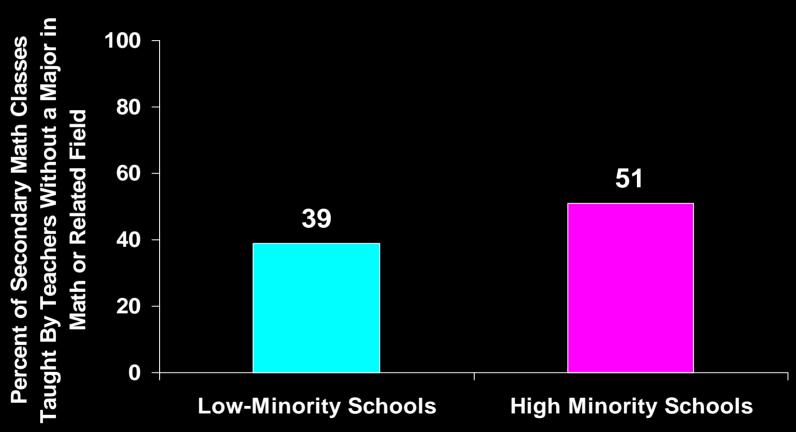
## Poor Students Are Most Likely to Get Math Teachers Lacking a Major in Math or a Related Field



Note: In low-poverty schools 15 percent or less of the students qualify for the federal free and reduced price lunch program, while in high-poverty schools 50 percent or more of the students qualify.



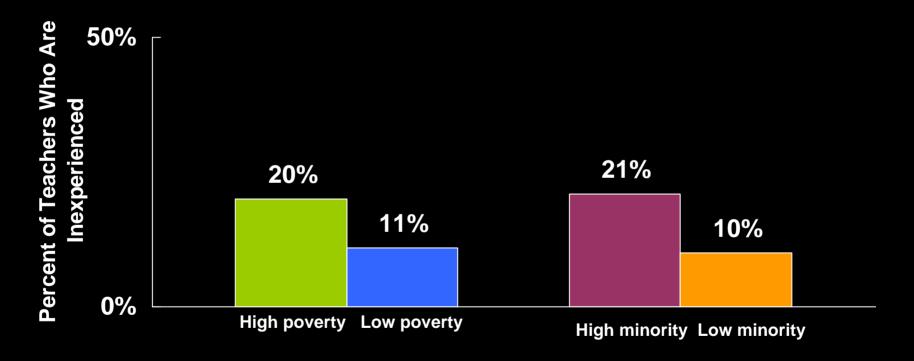
#### Minority Students Are Most Likely to Get Math Teachers Lacking a Major in Math or a Related Field



Note: In low-minority schools 15 percent or less of the student body is made up of minorities, while in high-minority schools, minorities make up 50 percent or more of the student body.



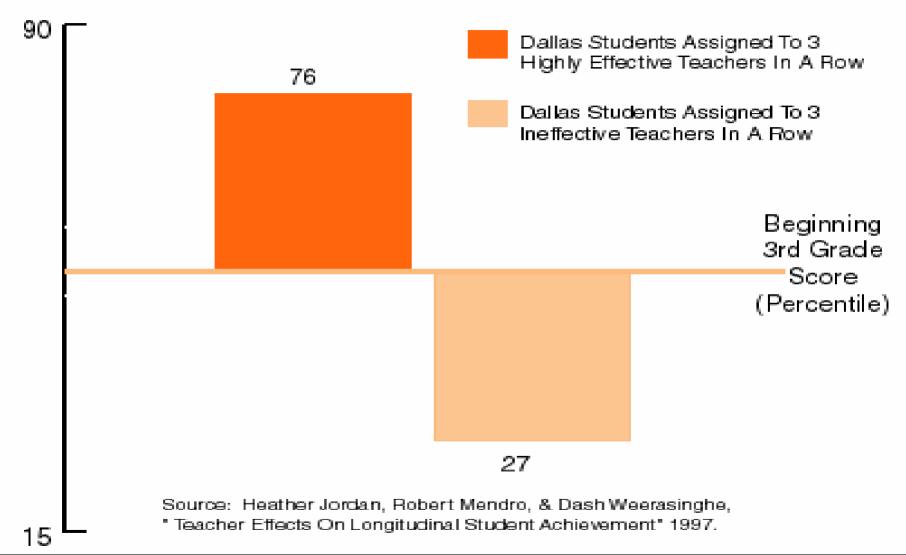
# Poor and Minority Students Get More Inexperienced\* Teachers



\*Teachers with 3 or fewer years of experience.

"High" and "low" refer to top and bottom quartiles.

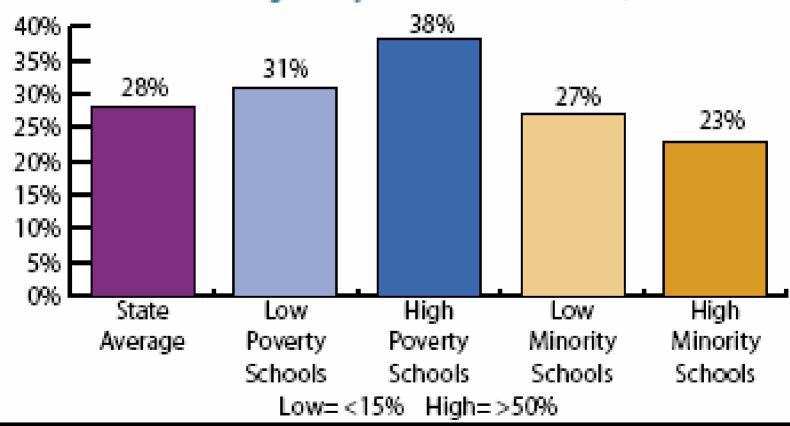
#### Effects On Students' Math Scores In Dallas (Grades 3-5)



#### Teachers in Virginia



#### Percentage of Virginia Secondary Classes Taught by Teachers Lacking a Major or Minor in Field, 1999-2000





### We spend less money in poor schools



## Nation: Inequities in State and Local Revenue Per Student

	Gap
High Poverty vs. Low Poverty Districts	-\$907 per student
High Minority vs. Low Minority Districts	-\$614 per student



#### A Tale of Two Schools



Granada Hills High School
Los Angeles Unified

- 32% Latino & African American
- 27% of students receive free or reduced price lunch
- Academic Performance Index = 773



Locke High School
Los Angeles Unified

- 99% Latino & African American
- 66% of students receive free or reduced price lunch
- Academic Performance Index = 440

The average teacher at Locke High School gets paid an estimated \$8,034 less every year than his counterpart at Granada Hills High School.

If Locke spent as much as Granada Hills on teacher salaries for its 119 teachers, the school budget would increase by nearly a million dollars (\$956,056) every year.



#### Results are devastating.

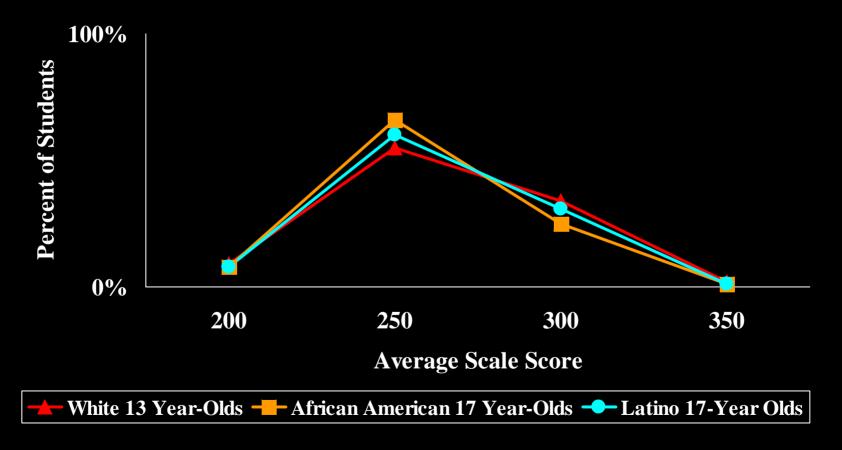
Kids who come in a little behind, leave a lot behind.



### By the end of high school?

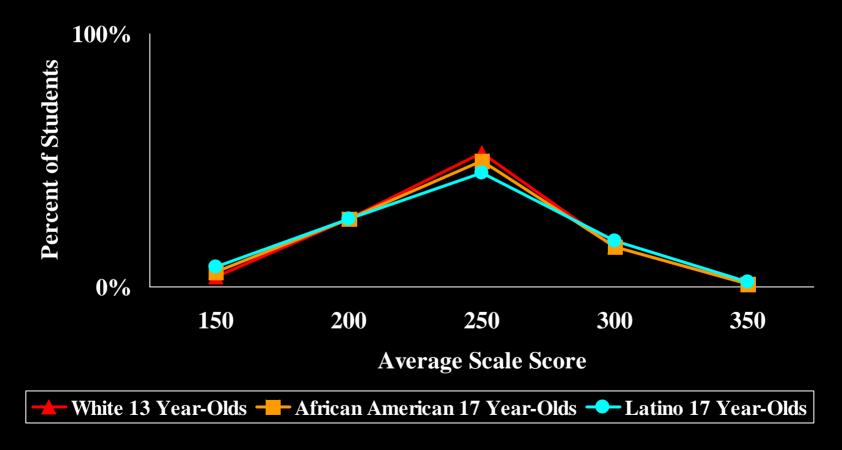


### African American and Latino 17 Year-Olds Do Math at Same Levels As White 13 Year-Olds



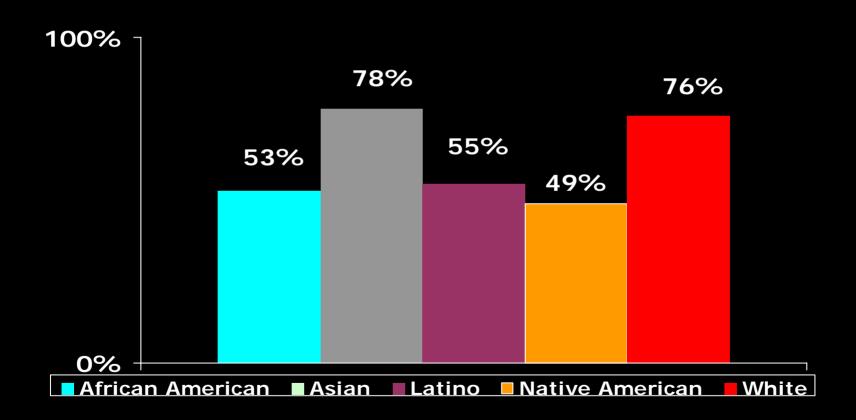


## African American and Latino 17 Year-Olds Read at Same Levels As White 13 Year-Olds





### ON-TIME HIGH SCHOOL GRADUATION





**Source:** Ed Week, *Quality Counts 2006*.

## And these are the students who remain in high school.

What do those numbers look like?



## But everybody in this room knows it doesn't have to be this way.



### Michigan

On Restructuring



### In Michigan, Most Restructured Schools Made Adequate Yearly Progress

- 113 of the 133 schools in restructuring improved student achievement enough to make AYP (that's 85%)
- 26 of the 133 schools in restructuring made AYP for two consecutive years and moved out of restructuring in 2005-06
- 87 of the schools met AYP targets for the first time

Note: Based on 2004-05 testing



### High-Performing Schools

- Agree on common goals for student learning and often have a school-wide curriculum or instructional program;
- Use scientifically <u>proven instructional methods</u> whenever possible;
- Monitor student learning more frequently;
- Pay attention to <u>data</u> on individual students and teachers in order to identify problems;
- Provide <u>extra help</u> to students who need it;
- Line up supports time, money, materials, partnerships, parent involvement, professional development, etc. to support your goals for student achievement.

### Little is left to chance.



#### High Performing Schools and Districts Act Immediately on Results from Snapshot Assessments

- When the data suggests individual kids are behind those kids get immediate help.
- When the data suggests that ½ or more of the kids in a class are behind, the teacher gets help.
- No one right way, but high performers have consistent methods to intervene and help ... whoever needs it . . .



## What have we learned? These Schools Think Differently About Almost Everything.



#1. Higher performing high schools have very clear goals. Even when they start with high dropout rates, they focus students on college.



#2. Higher performing high schools put all kids—not just some—in a demanding high school core curriculum.



#### REMEMBER:

# Single biggest predictor post-high school success is QUALITY AND INTENSITY OF HIGH SCHOOL CURRICULUM

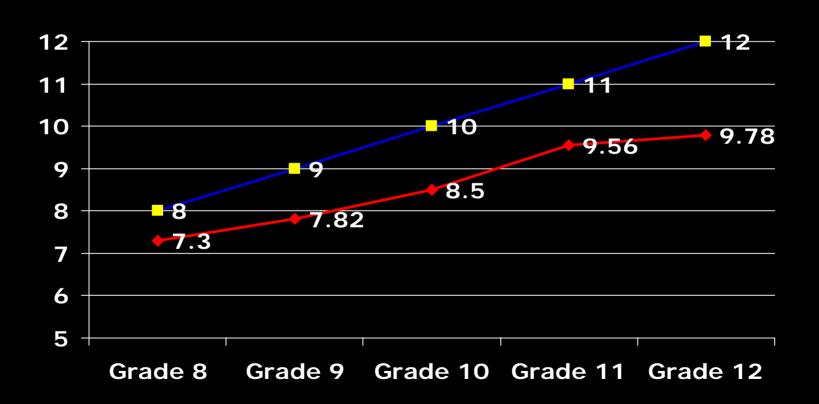
Cliff Adelman, *Answers in the Tool Box*, U.S. Department of Education.



#3. Higher performing high schools work very hard on the quality, consistency and rigor of high school courses.



### 14 SC Schools Calibrated





## High vs. Average Impact HS: Math Assignments

	Average Impact	High Impact
Skills	50% on level	74% on level
Application	23% on level	57% on level



## Differences in Assignments across High Schools

	Average HS	High Impact HS	High Achieving HS
Content Covered	Below Level	On Level	On Level
Level of Challenge in Assignment	Low	Middle	High





Calibrating assignments against standards and assessments



### Opportunity to Learn Questions

- What content/subject matter does the assignment contain for the student to learn?
- Is the assignment aligned with the content standards?
- Is the level of complexity in the assignment appropriate for the grade level?



Teacher work is at the heart of student work. Higher performing high schools have vehicles to help teachers improve their assignments.



### Grade 7 Writing Assignment

#### Essay on Anne Frank

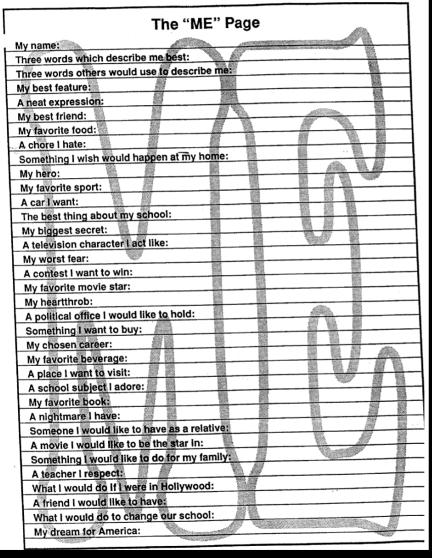
Your essay will consist of an opening paragraph which introduced the title, author and general background of the novel.

Your thesis will state specifically what Anne's overall personality is, and what general psychological and intellectual changes she exhibits over the course of the book

You might organize your essay by grouping psychological and intellectual changes OR you might choose 3 or 4 characteristics (like friendliness, patience, optimism, self doubt) and show how she changes in this area.



### Grade 7 Writing Assignment



•My Best Friend:

•A chore I hate:

•A car I want:

•My heartthrob:



#4. Higher performing high schools think very hard about how to deploy their resources...both people and time.



## Take, for example, the matter of reading.

Kids who arrive behind in reading...often simply assigned to courses that don't demand much reading.



## Average High School: Percent of Instructional Time in Reading Intensive Courses

Below Grade	On Grade	Advanced
Level Students	Level Students	Students
24%	29%	35%



### Surprise: Gaps Grow.



### Higher Performing High School: Percent of Instructional Time in Reading Intensive Courses

Below Grade Level Students		Advanced Students
35%	33%	35%



### Higher Performing High Schools:

- "Behind" students spend 60 additional hours (25% more time) over 1 year in reading related courses)
- "Behind" students get 240 additional hours over 4 years!



### Sample High School Catch-Up Schedule

Grade	Catch-Up	On-Track	Accelerated	
11 <sup>th</sup>	<ol> <li>ELA 11 (or honors, All 2. Algebra II (or honors 3. [World] History (or honors, All 2. Physics (or honors, All 2. Physics (or honors, All 3. World Language 6. Elective 7. Elective 8. Elective</li> </ol>	s) nonors, AP)	1. 2. 3. 4. 5. 6.	ELA 11 (or honors, AP) Trig/Pre-Calculus (or honors) [World] History (or honors, AP) Physics (or honors, AP) World Language Elective Elective Elective
12 <sup>th</sup>	<ol> <li>ELA 12 (or honors, Al. 2. Trig/Pre-Calculus (or 3. Civics/Econ/Psychology).</li> <li>Environmental Scients. World Language</li> <li>Elective</li> <li>Elective</li> <li>Elective</li> </ol>	r honors) ogy (or honors)	1. 2. 3. 4. 5. 6. 7.	ELA 12 (or honors, AP) Calculus (or honors, AP) Civics/Econ/Psychology (or honors) Environmental Science (or honors, AP) World Language Elective Elective Elective

## In other words, use of instructional time not left to chance.



## There is also the matter of how we deploy our people.

9<sup>th</sup> Grade Bulge:

Largely about "poor preparation" and "difficult transitions?"



## One Colorado High School: Student/Teacher Ratio by Grade

Grade	9th	10th	11th	12th
Average number of students per teacher		16.7	11.6	12.1

Source: Jovenes Unidos & Padres Unidos; March, 2004.



## Same Colorado High School: Counselor Deployment by Grade

Grade	9th	10th	11th	12th
Number of Counselors	1	1	1	1
Number of Students	572	366	309	213

Source: Jovenes Unidos and Padres Unidos; March, 2004



### Is this school structured around student, or adult needs?

And what about time for teaching and learning?



### Instructional Time Per Course

	Block	7 Period	6 Period
Total Instructional	135	153	180
Time Per Year	hours	hours	hours
Available Instructional Time (Total minus 20% for interruptions)	108	122	144
	hours	hours	hours



#### **Bottom Line:**

Students who take, say, 4 years of math or English in 6 period day schedule, get equivalent of one full year of additional instruction over those who take 4 years in block schedule.



#5. Higher performing high schools plan for how to use that extra instructional time. To achieve maximum benefit from extra instruction, need carefully designed "catch up" curriculum.



### MDRC Study

Talent Development
Kansas City, KS First Things First



Must combine systematic instruction in the basics with higher level instruction that will truly engage students.



#6. Higher performing schools identify students who need help EARLY.

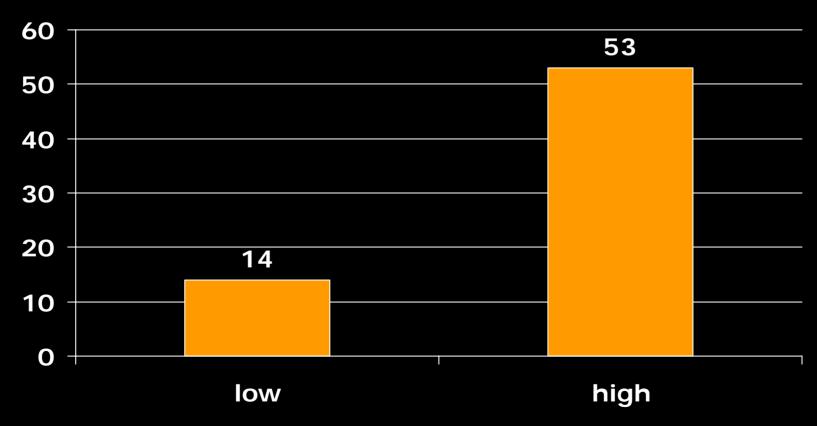
They don't just offer that help—they make certain that students take advantage of it.



#7. In higher performing schools, leaders know that teachers matter a lot. They work hard to attract and hold good teachers. And they work hard to get strong teachers to the students who need them most.



## LOW ACHIEVING STUDENTS IN TN GAIN MORE WITH EFFECTIVE TEACHERS: One Year Growth





#### **TN Graduation Exams**

"Students who fail 4<sup>th</sup> grade exam are six times more likely to pass the exit exam if they have four highly effective teachers in a row, compared to those who have four low-effectiveness teachers in a row."

Rivers, June. "The Impacet of Teacher Effects on Student Math Competency." Univ of TN, 1999



### Principals in higher performing schools:

- Work hard to attract and hold good teachers;
- Build a culture that honors those who teach students who are behind;
- Use more than seniority and preferences in assignments;
- Are driven by data on teacher impact.





### The Education Trust

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Washington, DC: 202-293-1217

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